PART A

IONOSPHERIC DATA

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U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

CRPL-F 202
PART A

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CENTRAL RADIO PROPAGATION LABORATORY
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CONTENTS

SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1952, and continuing through December 1956, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Geneva, 1951. Excerpts concerning symbols and terminology from Document No. 626-E of this Meeting are given on pages 2-7 of the report CRPL-F89, "Ionospheric Data," issued January 1952. Reprints of these pages are available upon request.

Beginning with data for January 1957, the symbols used are given in NBS Report 5033, "Summary of Changes in Ionospheric Vertical Soundings, Observing and Scaling Procedures - Effective 1 January 1957," which draws upon the First Report of the Special Committee on World-Wide Ionospheric Soundings (URSI/AGI), Brussels, Sept. 2, 1956. A list of these symbols is available upon request.

In the Second Report of the Special Committee on World-Wide Ionospheric Soundings of the URSI/AGI Committee, May 1957, a new descriptive letter was introduced:

M Measurement questionable because the ordinary and extraordinary components are not distinguishable.

There was an expansion in meaning of the following:

Z (1) (qualifying letter) Measurement deduced from the third magnetoionic component.
(2) (descriptive letter) Third magnetoionic component present.

Beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given above.

a. For all ionospheric characteristics:

Values missing because of A, C, F, H, L, N or R are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of foF2 (and foE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F (and h'E near sunrise and sunset) missing for this reason are counted usually as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count.

Values missing because of G are counted:

1. For foF2, as equal to or less than foF1.
2. For h'F2, as equal to or greater than the median.

The symbol W is included in the median count only when it replaces a height characteristic; the descriptive symbol D, only when it replaces a frequency characteristic.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of E or G are counted as equal to or less than the median foE, or equal to or less than the lower frequency limit of the recorder.

B for fEs is counted on the low side when there is a numerical value of a higher layer characteristic; otherwise it is omitted from the median count.

S for fEs is counted on the low side at night; during the day it is omitted from the median count (beginning with data for November 1957).

Values of fEs missing for any other reason, and values of h'Es missing for any reason at all are omitted from the median count.

Beginning with CRPL-F188, Part A, issued April 1960, the count is given for foF2 in the tables of medians. It is regretted that space limitations prevent including detailed counts for other characteristics.

To indicate further in a general manner the relative reliability of the data, for the F2 layer, h'F or foEs, if the count is from five to nine, or, for all layers, if more than half of the data used to compute the medians are doubtful (either doubtful or interpolated), the median is enclosed in parentheses. Medians are computed for less than five values for foF2 only.

Ordinarily, a blank space in the fEs or foEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of foE. Blank spaces at the beginning and end of columns of h'F2 or h'F1, foF1, h'E, and foE are usually the result of diurnal variation in these characteristics. Complete absence of medians of h'F1 and foF1 is usually the result of seasonal effects.

There is no indication on the graphs of the relative reliability of the observed data; it is necessary to consult the tables for such information.

The tables may contain median values of either foEs or fEs. The graph of median Es corresponds to the table. Percentage curves of fEs are estimated from values of foEs when necessary.

The latest available information follows concerning the smoothed observed Zürich numbers beginning with the minimum of April 1954. Final numbers are listed through June 1960.

Smoothed Observed Sunspot Number

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1954				3	4	4	5	7	8	8	9	12
1955	14	16	19	23	29	35	40	46	55	64	73	81
1956	89	98	109	119	127	137	146	150	151	156	160	164
1957	170	172	174	181	186	188	191	194	197	200	201	200
1958	199	201	201	197	191	187	185	185	184	182	181	180
1959	179	177	174	169	165	161	156	151	146	141	137	132
1960	129	125	122	120	117	114	108	102	97	93	87	
1961												

WORLD-WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 72 and figures 1 to 144 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Republica Argentina, Ministerio de Marina:
- Buenos Aires, Argentina
- Decepcion I.

Commonwealth of Australia, Ionospheric Prediction Service of the Commonwealth Observatory:
- Canberra, Australia
- Mawson
- Townsville, Australia

University of Graz:
- Graz, Austria

Meteorological Service of the Belgian Congo and Ruanda-Urundi:
- Bunia, Belgian Congo
- Elisabethville, Belgian Congo
- Leopoldville, Belgian Congo

Belgian Royal Meteorological Institute:
- Dourbes, Belgium

Escola Politecnica, University of Sao Paulo:
- Sao Paulo, Brazil

British Department of Scientific and Industrial Research, Radio Research Board:
- Halley Bay
- Ibadan, Nigeria (University College of Ibadan)
- Inverness, Scotland
- Port Lockroy

Defence Research Board, Canada:
- Churchill, Canada
- Ottawa, Canada
- Resolute Bay, Canada
- St. John's, Newfoundland
- Winnipeg, Canada

General Direction of Posts and Telegraphs, Helsinki, Finland:
Nurmijarvi, Finland

The Finnish Academy of Sciences and Letters:
Sodankyla, Finland

French National Center for Geophysical Studies:
Garchy, France

French National Center for Telecommunications Studies:
Bangui, French Equatorial Africa
Dakar, French West Africa
Djibouti, French Somaliland
Poitiers, France
Rabat, Morocco
Tahiti, Society Is.
Tamanrasset, French West Africa
Tananarive, Madagascar

Institute for Ionospheric Research, Lindau Uber Northeim, Hannover, Germany:
Lindau/Harz, Germany
Tsumeb, South West Africa

The Royal Netherlands Meteorological Institute:
De Bilt, Holland
Hollandia, Netherlands New Guinea
Paramaribo, Surinam

National Institute of Geophysics, City University, Rome, Italy:
Rome, Italy

Ministry of Postal Services, Radio Research Laboratories, Tokyo, Japan:
Akita, Japan
Tokyo (Kokubunji), Japan
Wakkanai, Japan
Yamagawa, Japan

General Directorate of Telecommunications, Mexico:
El Cerillo, Mexico

Norwegian Defence Research Establishment, Kjeller per Lillestrom, Norway:
Tromso, Norway

Telecommunication Administration, Oslo, Norway:
Svalbard, Norway

Institute of Terrestrial Magnetism, Ionosphere and Radio Propagation, Moscow, U.S.S.R.:
Murmansk

South African Council for Scientific and Industrial Research:
Capetown, Union of South Africa
Johannesburg, Union of South Africa

Research Institute of National Defence, Stockholm, Sweden:
Kiruna, Sweden
Lycksele, Sweden
Upsala, Sweden

Royal Board of Swedish Telegraphs, Radio Department, Stockholm, Sweden:
Lulea, Sweden

Post, Telephone and Telegraph Administration, Berne, Switzerland:
Sottens, Switzerland

United States Army Signal Corps:
Adak, Alaska
White Sands, New Mexico

National Bureau of Standards (Central Radio Propagation Laboratory):
Boulder, Colorado
Huancayo, Peru (Instituto Geofisico de Huancayo)
Talara, Peru (Instituto Geofisico de Huancayo)
Washington, D. C.

ERRATUM

CRPL-F201(A), p. 44, fig. 125: foF2 curve at 08.3 should read >12.7.

TABULATIONS OF ELECTRON DENSITY DATA

Reduction of hourly ionospheric vertical soundings to electron density profiles has become a part of the systematic ionospheric data program of the Central Radio Propagation Laboratory, National Bureau of Standards. Scalings of ionograms for this purpose are being provided by ionosphere stations operated by several stations associated with CRPL. For the present, the hourly profile data from one CRPL station, Puerto Rico, are appearing in the monthly CRPL-F Reports, Part A. The very considerable task of scaling the ionograms for this purpose is being undertaken by T. R. Gilliland, Engineer in Charge, Puerto Rico Ionosphere Sounding Station; the computations are performed at the NBS Boulder Laboratories by a group headed by J. W. Wright. Basic conversion of virtual to true heights uses the well-known matrix method developed by K. G. Budden of the Cavendish Laboratory, Cambridge University, programmed by Dr. H. H. Howe for a CDC-1604 computer.

The tabulations provide the following basic electron density profile data for each hour of each day of the month:

Quantity	Units	Remarks
Electron Density (N)	$x10^3$ = electrons/cm^3	Body of table; given at each 10 km of height.
NMAX	$x10^3$ = electrons/cm^3	Always the highest value of N at each hour. To maintain this rule, the electron density at the next 10 km increment above HMAX is always given as exactly equal to NMAX (unless HMAX coincides with a 10 km level).
QUALification	(Alphabetic)	A standard scaling letter qualifying the observation when necessary.
KP		The standard Kp magnetic index, to one digit.
HMIN	Kilometers	The height of zero or very low electron density, obtained by linear extrapolation of the electron density vs. height curve.
SCAT	Kilometers	One half of the half-thickness of the parabola best fitting the upper portion of the F region profile. Approximates the scale height near the level HMAX.
HMAX	Kilometers	The height of maximum electron density, determined by fitting a parabola to the upper portion of the profile.
SHMAX	$x10^{10}$ = electrons/cm^2 column.	Obtained by integration of the profile between the limits HMIN and HMAX.

Tabulations of the average electron densities each hour, at each 10 km level, for the quiet ionosphere, are also given. These averages include the profiles obtained when the magnetic character figure Kp is 4+ or less. The number of profiles entering the average for each hour is given by CNT. The other parameters of the layer, HMIN, SCAT, HMAX, SHMAX, and the mean value of Kp are given for each hour.

Before the averaging process, the individual profiles are extrapolated above HMAX by a Chapman distribution of 100 km scale height. This assumed model seems to agree well with the few published measurements dealing with the topside profile of the F-region.* Extrapolation is necessary in order to calculate homogeneous averages near HMAX and the average profiles are, in fact, given up to 950 km. Also given are the average estimated integrated electron densities to infinity, SHINF (same units as SHMAX); this is an approximation to the total electron content in a column of the ionosphere.

*See Wright, J. W. "A Model of the F-Region Above HMAX F2" J.Geophys.Res. V.65, pp.185-191.

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 1 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q-KP	1	1	0	A0	0	0	0	0	1	1	1	1
HMIN	228	214	219	208	198	279	217	199	109	110	105	109
SCAT	38.4	40.6	45.2	35.9	91.6	53.4	58.2	40.4	38.1	40.5	40.2	46.9
HMAXF	303	308	308	269	337	360	332	285	249	249	260	289
SHMAX	103	123	147	115	141	89	139	167	415	547	792	1081
KM												
360						139						
350						138						
340					127	134	179					
330					127	128	179					
320					126	120	177					
310	198	214	251		124	110	173					
300	198	212	249		122	96.4	166					
290	192	203	241		119	77.5	156	310				1328
280	180	189	227		115	12.4	146	309				1317
270	161	170	209	262	110		131	299			1119	1277
260	135	140	181	258	104		112	281			1119	1203
250	105	106	141	244	98.8		90.4	255	707	834	1101	1108
240	70.6	74.8	89.8	221	92.3		67.6	214	697	823	1044	967
230	22.3	51.3	52.4	185	85.3		46.2	156	662	787	960	808
220		24.9	6.1	110	75.6		12.4	95.9	609	724	837	655
210				26.9	61.9			54.7	503	639	682	529
200					28.3			5.3	363	520	530	428
190									251	378	415	366
180									180	281	340	324
170									138	225	293	293
160									110	187	260	263
150									92.0	156	230	229
140									82.1	135	200	189
130									77.4	123	177	162
120									72.8	115	154	151
110									12.4	12.4	129	84.9

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 1 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q-KP	1	1	2	2	2	A1	1	1	1	F1	F1	F0
HMIN	105	106	107	106	109	109	203	209	211		228	227
SCAT	38.7	37.7	44.9	41.8	51.4	35.1	34.0	44.3	42.6		46.7	53.4
HMAXF	266	258	254	260	283	264	253	286	312		321	333
SHMAX	1101	822	703	656	778	558	245	203	182		230	233
KM												
340												335
330											382	335
320									298		382	331
310									298		376	320
300									292		362	303
290					906			362	276		339	281
280					906			360	254		307	254
270	1669				892	928		349	224		267	219
260	1659	1191	875	834	859	925	643	329	188		210	170
250	1599	1177	873	823	812	885	642	301	149		124	109
240	1485	1121	852	787	747	817	619	262	108		64.2	63.7
230	1315	1024	808	727	660	719	573	207	71.5		12.4	19.9
220	1065	881	744	651	557	582	486	135	44.5			
210	787	724	667	564	459	428	274	38.9				
200	568	565	585	482	378	303						
190	430	439	502	412	318	227						
180	358	361	425	353	273	177						
170	314	318	354	303	237	140						
160	284	287	302	262	207	113						
150	260	253	269	228	181	96.2						
140	237	220	232	194	159	85.5						
130	207	187	192	160	135	79.9						
120	174	171	170	139	119	75.2						
110	151	147	135	127	76.1	49.0						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 2 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q-KP	0	0	0	0	0	0	0	0	S1	1	A1	A0
HMIN	226	227	224	195	299	266	250	230	110	109		109
SCAT	43.7	38.3	32.5	15.4	49.3	49.0	44.5	39.2	31.2	33.9		43.8
HMAXF	309	309	283	223	378	365	339	308	250	257		275
SHMAX	168	176	185	90	69	93	94	134	429	701		943
KM												
380					112							
370					111	139						
360					108	139						
350					103	136						
340					94.6	130	156					
330					85.0	121	155					
320					72.9	109	149					
310	298	342			57.9	94.5	139	257				
300	295	337			12.4	79.3	126	254				
290	284	319	469			62.9	108	243				
280	265	293	468			47.0	87.9	225				1215
270	240	253	451			16.8	64.9	199				1211
260	204	200	418				42.6	157		1143		1177
250	156	137	347					108	794	1130		1111
240	97.0	70.4	213					59.9	775	1066		1015
230	41.6	20.3	73.0	477				4.1	717	960		889
220				473					613	809		736
210				402					477	637		596
200				142					330	476		486
190									233	351		401
180									177	283		339
170									140	240		299
160									113	205		267
150									94.8	171		238
140									83.2	143		208
130									78.5	126		174
120									73.8	117		154
110									12.4	76.1		117

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 2 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q-KP	A0	0	0	S0	0	0	0	0	1	1	1	F0
HMIN		107	105	104	108	110	199	200	199	239	208	227
SCAT		54.1	39.9	42.6	50.6	38.8	38.3	36.1	55.5	40.8	48.2	31.7
HMAXF		297	273	270	281	272	282	258	315	334	311	283
SHMAX		1258	900	789	745	614	420	187	184	168	199	96
KM												
340										286		
330										285		
320									235	277	304	
310									234	261	304	
300		1420							230	235	300	
290		1413			834		834		223	202	290	240
280		1384	1215		834	917	833		210	166	270	240
270		1328	1213	1050	824	917	815		195	129	247	231
260		1255	1181	1036	798	896	765	432	176	90.6	219	209
250		1153	1103	992	754	841	691	426	155	53.5	184	178
240		1006	1002	923	696	762	594	404	132	5.8	141	127
230		834	855	825	627	653	438	370	109		92.2	40.7
220		672	698	699	550	522	234	300	87.4		54.8	
210		532	558	550	472	396	98.4	192	65.1		12.4	
200		433	450	423	401	294	12.4	12.4	12.4			
190		371	377	348	344	231						
180		333	329	300	296	189						
170		305	295	266	258	159						
160		280	265	237	226	136						
150		254	232	210	198	117						
140		228	193	180	171	103						
130		199	166	152	148	93.8						
120		172	153	138	132	87.9						
110		145	144	128	72.3	12.4						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 3 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	F0	F0	F1	F1	1	4	4	4	5	5	5	A3
HMIN	259	238		200	198	287	226	200	108	108	108	108
SCAT	47.1	32.4		57.4	69.5	46.0	59.6	36.4	32.5	42.1	55.2	47.2
HMAXF	341	300		304	319	377	353	284	257	273	291	271
SHMAX	131	111		162	139	117	194	179	418	690	1071	939
KM												
380						189						
370						187						
360						182	240					
350	219					170	240					
340	219					155	237					
330	216					137	231					
320	208				156	117	221					
310	194			219	156	94.6	207					
300	177	262		219	153	62.1	192				1240	
290	154	257		216	150	19.6	172	362			1240	
280	123	238		210	144		149	361		939	1228	1215
270	84.1	209		200	136		120	349		938	1196	1215
260	12.4	163		187	127		89.6	322	716	918	1144	1198
250		98.7		172	116		64.8	284	707	869	1070	1154
240		26.9		152	105		46.0	226	664	798	976	1083
230				127	92.5		16.3	150	589	704	854	983
220				97.8	77.0			89.1	490	587	707	844
210				63.0	56.3			50.8	367	465	559	681
200				2.6	12.4				263	367	433	530
190									197	298	353	418
180									156	248	300	340
170									125	210	261	294
160									102	175	227	262
150									87.9	143	191	235
140									81.3	127	159	208
130									77.5	121	141	179
120									73.6	115	132	154
110									53.1	58.7	78.1	97.9

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 3 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	A3	3	A2	2	A2	A2	2	2	1	1	1	2
HMIN	109	107	109	107			211	200	218	207	260	254
SCAT	55.2	52.1	60.5	47.8			43.7	47.5	48.6	48.2	49.0	50.7
HMAXF	307	300	304	285			291	284	314	331	354	355
SHMAX	1159	1266	1200	941			485	339	218	237	220	213
KM												
360											335	310
350											335	309
340										335	328	303
330										335	315	292
320									335	331	294	273
310	1215	1433	1240						335	320	267	249
300	1211	1433	1239				875		328	300	233	220
290	1187	1419	1223	1096			875	573	315	274	193	186
280	1144	1378	1191	1093			860	572	293	242	150	149
270	1086	1308	1141	1069			821	561	267	205	98.1	108
260	996	1221	1076	1016			761	536	231	164		53.7
250	880	1098	990	945			674	505	188	126		
240	752	947	885	861			563	450	141	94.0		
230	625	786	771	758			414	368	91.4	66.4		
220	514	635	648	645			177	264	28.3	45.6		
210	435	508	528	536				156		12.4		
200	381	420	429	445				12.4				
190	345	361	358	375								
180	318	325	314	323								
170	296	296	282	283								
160	275	269	251	251								
150	253	240	219	223								
140	227	210	183	194								
130	197	185	160	167								
120	175	170	151	150								
110	120	140	97.6	98.8								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 4 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	A2	2	2	2	2	1	1	1	5	5	5	A4
HMIN		232	227	202	233	291	210	228	109	108	107	107
SCAT		45.4	34.5	33.6	87.8	52.6	55.8	41.4	41.7	34.8	68.3	44.6
HMAXF		324	290	264	401	391	324	299	265	252	312	294
SHMAX		264	234	238	282	188	166	187	532	525	1047	1215
KM												
410					240							
400					240	274						
390					239	274						
380					237	271						
370					233	263						
360					227	250						
350					220	234						
340					210	211						
330		446			199	181	219					
320		446			187	146	218				960	
310		436			175	104	215				960	
300		415	540		161	58.0	208	362			953	1555
290		385	540		145		198	357			935	1553
280		342	528		128		184	342			906	1520
270		283	493	599	111		167	316	834		871	1447
260		203	439	597	92.2		146	281	831	875	821	1340
250		111	343	575	70.4		123	227	807	874	761	1188
240		54.8	202	528	41.9		97.4	149	761	849	692	1004
230			56.1	442			70.8	48.9	688	785	618	819
220				255			47.1		581	689	533	643
210				74.9			1.1		426	560	455	505
200									299	417	392	406
190									210	300	344	345
180									155	229	305	303
170									122	186	270	272
160									100	147	235	247
150									87.4	120	196	221
140									80.7	109	157	187
130									76.3	104	139	153
120									71.8	99.2	130	137
110									38.9	55.7	98.7	122

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 4 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	4	A4	A7	A7	7	A7	7	7	6	6	6	6
MMIN	110			109	108	108	208	211	227	199	210	228
SCAT	55.1			58.8	78.6	69.1	46.5	49.0	56.3	55.1	44.8	43.5
HMAXF	310			330	349	343	357	307	369	340	303	327
SHMAX	1335			1457	1702	1499	984	908	778	724	385	359
KM												
370									960			
360							1446		954			
350					1446	1433	1438		933			
340					1442	1432	1397		896	854		
330				1446	1426	1420	1319		845	847		590
320				1437	1398	1392	1207		780	823		587
310	1433			1406	1359	1350	1076	1446	699	785	670	566
300	1422			1355	1299	1284	915	1438	611	739	669	532
290	1388			1271	1233	1212	734	1400	512	686	655	483
280	1326			1180	1166	1132	536	1331	417	625	623	421
270	1236			1076	1083	1024	346	1232	318	557	578	345
260	1140			953	972	895	208	1107	219	483	510	256
250	1016			828	848	762	135	935	133	402	418	169
240	878			701	721	630	93.3	710	69.3	324	280	88.8
230	741			584	603	511	65.0	423	20.3	255	149	24.6
220	618			494	502	411	44.3	135		183	68.3	
210	507			425	417	330	8.2			103	3.7	
200	424			372	356	269				12.4		
190	365			329	309	225						
180	321			292	269	191						
170	284			259	235	164						
160	254			229	203	141						
150	226			197	175	122						
140	187			170	149	106						
130	159			155	129	95.5						
120	149			145	118	89.2						
110	12.4			65.5	80.3	73.8						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO — 60 W — 5 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O,KP	6	6	5	5	5	4	4	4	A2	A2	2	A2
HMIN	229	203	242	266	269	207	209	237			109	
SCAT	60,5	39,2	46,0	56,5	51,4	60,7	43,6	33,4			31,5	
HMAXF	353	288	325	391	389	352	288	301			266	
SHMAX	412	255	191	204	176	227	68	131			1158	
KM												
400				262								
390				262	240							
380				260	238							
370				254	232							
360	500			243	221	262						
350	500			228	205	262						
340	494			211	185	260						
330	481		329	187	161	254						
320	460		328	158	134	244						
310	434		320	127	107	230		304				
300	402		304	97,0	79,7	213		304				
290	364	492	284	68,4	57,6	193	119	295				
280	323	488	251	47,5	40,9	170	118	273				
270	273	465	202	16,4	5,1	143	114	240			2294	
260	217	431	141			117	106	180			2275	
250	148	377	76,0			91,9	96,6	103			2151	
240	79,5	298				71,2	83,5	36,8			1915	
230	12,4	199				54,5	66,5				1490	
220		114				40,7	47,6				1009	
210		52,6				9,2	7,0				583	
200											388	
190											311	
180											265	
170											231	
160											199	
150											170	
140											147	
130											129	
120											120	
110											104	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO — 60 W — 5 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O,KP	A2	2	1	A1	1	A1	1	1	2	2	2	2
HMIN		108	106	108	110		218	200	208	199	306	275
SCAT		62,5	49,8	53,4	45,1		35,3	41,0	42,5	64,8	42,2	50,9
HMAXF		320	303	288	283		287	277	281	318	378	382
SHMAX		1158	959	745	626		328	238	107	108	75	112
KM												
390												161
380											143	161
370											142	158
360											137	153
350											128	145
340											115	132
330		1096									97,3	117
320		1096								127	67,6	100
310		1088	1050							126	27,5	80,6
300		1067	1049							125		60,7
290		1029	1032	794	745		754		198	121		44,6
280		980	992	789	744		746	446	198	116		15,9
270		919	932	771	730		707	443	195	109		
260		842	853	736	694		642	428	186	101		
250		755	752	690	645		527	398	172	91,3		
240		658	627	632	580		330	357	153	80,5		
230		552	513	560	501		119	300	127	68,5		
220		458	425	476	421		26,9	225	91,0	55,1		
210		384	365	394	351			131	30,0	41,5		
200		336	327	333	298			12,4		4,5		
190		308	301	295	261							
180		292	282	269	232							
170		271	267	249	207							
160		248	248	229	185							
150		224	223	206	165							
140		196	199	181	145							
130		169	165	160	127							
120		152	151	149	116							
110		130	131	78,1	12,4							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO — 60 W — 6 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O,KP	2	2	F5	5	F5	F4	F4	4	F4	4	A4	5
HMIN	301	272	231	218	196		332	212	109	109		109
SCAT	59,5	44,3	42,2	30,3	57,1		41,6	42,4	34,6	31,4		55,7
HMAXF	412	352	314	279	308		409	312	246	241		292
SHMAX	139	118	126	106	97		53	147	487	571		1175
KM												
420	179											
410	179						97,2					
400	177						96,1					
390	173						92,3					
380	166						85,6					
370	157						76,4					
360	146	208					64,7					
350	132	208					48,8					
340	114	205					26,5					
330	94,0	195										
320	69,5	182	229					246				
310	44,1	162	229		127			245				
300		135	223		126			240				1341
290		98,2	211		124			226				1341
280		54,5	195	262	119			208				1327
270			168	256	113			184				1291
260			130	236	103			151				1233
250			82,3	203	92,5			111	917	1050		1159
240			46,5	149	80,5			79,5	910	1049		1055
230				83,3	67,1			55,4	868	1018		918
220				22,3	52,9			33,8	792	935		753
210					41,0				657	791		605
200					12,4				464	579		474
190									278	420		385
180									191	304		330
170									143	241		292
160									115	202		258
150									96,6	171		223
140									83,7	144		189
130									78,1	126		163
120									72,5	116		151
110									43,1	62,8		84,9

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO — 60 W — 6 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O,KP	5	5	53	A3	A3	A3	A3	A3	A3	3	3	3
HMIN	105	107	108				199	218	209	280	266	228
SCAT	47,9	61,2	53,0				38,6	31,3	38,0	54,9	49,6	43,3
HMAXF	283	319	317				292	285	275	398	371	326
SHMAX	1116	1427	1604				657	362	166	180	200	189
KM												
400										240		
390										239		
380										234	298	
370										225	298	
360										210	294	
350										193	284	
340										172	268	
330										148	247	310
320		1433	1786							118	218	308
310		1425	1777							86,2	180	299
300		1399	1739				1240			59,7	139	281
290	1341	1353	1668				1240	875		41,0	96,4	255
280	1339	1279	1564				1212	869	342		62,6	222
270	1315	1197	1433				1144	823	340		26,2	183
260	1261	1101	1267				1032	735	325			141
250	1171	971	1116				874	588	301			97,0
240	1065	821	920				675	399	267			57,0
230	932	679	745				454	179	221			12,4
220	787	562	598				248	32,2	158			
210	644	468	482				110		38,9			
200	525	400	402				12,4					
190	428	353	347									
180	361	319	306									
170	317	291	273									
160	283	263	243									
150	250	229	206									
140	209	182	175									
130	182	160	158									
120	170	152	150									
110	155	142	116									

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 7 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	3	3	F2	2	2	2	2	2	S2	2	2	1
HMIN	249	238	281	229	220	288	197	199	109	109	109	107
SCAT	44.7	54.0	34.6	39.8	41.0	53.6	37.9	36.7	43.6	43.4	51.3	41.5
HMAXF	334	341	336	298	283	393	289	267	248	257	298	273
SHMAX	170	186	109	165	115	131	132	130	366	504	961	1062
KM												
400						184						
390						184						
380						181						
370						174						
360						165						
350		262				154						
340	286	262	262			139						
330	285	260	260			120						
320	279	252	248			97.3						
310	265	241	224			73.5						
300	243	224	190	335		49.9					1050	
290	215	203	122	332	235	12.4	240				1044	
280	181	178		318	234		237				1018	1555
270	141	148		293	229		225	274			969	1553
260	92.9	110		259	216		205	272		643	905	1517
250	12.4	62.4		210	198		177	259	532	638	824	1433
240		12.4		122	171		143	238	527	617	718	1292
230				12.4	121		106	205	508	578	611	1139
220					12.4		72.8	160	478	524	516	905
210							48.5	97.8	430	460	442	664
200							12.4	12.4	363	396	381	472
190									291	338	334	366
180									220	286	298	306
170									165	243	269	270
160									128	205	243	241
150									105	175	214	204
140									88.8	150	183	173
130									79.1	123	158	158
120									72.0	108	137	150
110									43.1	87.3	75.1	110

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 7 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	A1	A1	A2	A2	A2	4	4	4	3	A3	3	A2
HMIN			109			105	219	200	199	201	209	227
SCAT			47.4			51.5	38.6	37.6	41.0	38.6	42.2	53.6
HMAXF			282			283	289	274	283	301	301	345
SHMAX			970			1140	585	432	212	164	129	164
KM												
350												219
340												218
330												214
320												207
310										286	219	195
300										286	219	180
290			1240			1514	1240		389	280	215	161
280			1240			1513	1222	875	388	264	206	138
270			1221			1489	1163	872	380	238	189	114
260			1175			1433	1064	844	359	203	168	88.1
250			1102			1346	900	784	330	164	140	63.2
240			999			1232	654	695	284	123	110	44.8
230			868			1110	298	576	222	86.1	77.3	12.4
220			715			933	41.5	416	155	58.9	49.0	
210			560			717		186	83.2	38.8	7.0	
200			430			480		12.4	12.4			
190			347			316						
180			295			232						
170			255			187						
160			218			159						
150			180			135						
140			156			112						
130			142			96.7						
120			134			90.2						
110			114			83.0						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 8 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	A2	A2	A2	2	2	2	2	2	S2	2	2	2
HMIN	248	254	234	223	244	278	245	218	109	107	109	105
SCAT	53.1	49.9	31.7	43.8	48.2	39.4	50.8	39.2	41.5	34.7	40.6	34.2
HMAXF	358	341	309	312	340	359	340	281	248	243	257	254
SHMAX	156	147	117	148	151	118	146	171	407	460	675	654
KM												
360	219					219						
350	217	235			235	216						
340	212	235			235	205	219					
330	203	232			232	187	217					
320	190	224		257	224	163	210					
310	174	211	262	257	211	133	200					
300	153	195	258	252	194	100	186					
290	127	174	240	241	171	63.4	168	362				
280	97.1	146	211	223	141	12.4	143	361				
270	66.9	104	164	199	106		111	354				
260	44.8	50.3	105	166	71.2		78.1	335			960	960
250	8.1		65.0	119	38.8		42.9	309	643	754	953	958
240			35.9	71.7				260	637	753	918	922
230				41.7				176	613	729	855	842
220								51.6	572	673	756	736
210									509	586	624	606
200									412	478	496	487
190									295	353	390	396
180									211	263	321	332
170									155	211	272	288
160									120	174	237	255
150									97.2	145	207	225
140									83.8	122	178	195
130									77.8	109	151	167
120									71.8	102	135	152
110									41.0	82.6	84.9	130

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 8 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	2	2	A3	A3	3	2	2	2	3	3	3	S3
HMIN	106	108			105	110	219	199	212	229	269	247
SCAT	42.2	48.1			48.5	46.4	44.1	37.5	44.6	52.7	44.8	46.3
HMAXF	256	280			289	290	307	271	281	323	347	350
SHMAX	678	813			1188	874	755	450	236	158	121	142
KM												
350											214	219
340											212	216
330										235	205	209
320										234	193	195
310							1341			231	176	178
300						1143	1333			224	153	155
290					1542	1143	1292		446	212	124	128
280		917			1529	1129	1214	960	446	199	80.2	98.2
270		908			1483	1088	1110	960	440	177	12.4	69.0
260	917	879			1399	1022	947	941	422	151		47.0
250	913	828			1289	929	724	885	392	117		12.4
240	886	761			1149	815	470	799	352	74.3		
230	830	682			947	682	192	665	292	12.4		
220	754	597			741	545	12.4	477	188			
210	655	507			563	426		159				
200	532	430			424	330		12.4				
190	412	372			329	256						
180	335	329			275	208						
170	291	297			238	171						
160	258	269			209	143						
150	228	239			184	122						
140	199	202			161	104						
130	172	173			141	93.0						
120	154	153			125	85.4						
110	132	122			113							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 9 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	53	3	2	2	2	2	2	2	2	2	2	2
HMIN	208	250	237	237	198	266	195	209	107	110	107	109
SCAT	54.6	48.2	52.1	36.2	41.1	42.3	54.9	24.9	34.8	47.6	36.0	34.6
HMAXF	322	344	339	307	289	366	333	254	244	258	257	256
SHMAX	147	166	158	161	113	112	161	134	381	556	664	730
KM												
370						184						
360						183						
350		262				176						
340		262	229			164	198					
330	198	257	228			149	198					
320	198	246	222			129	196					
310	196	227	210	335		105	190					
300	191	205	195	332		81.1	181					
290	182	179	177	317	198	59.8	168					
280	169	144	157	288	196	43.3	152					
270	154	98.3	134	248	188	12.4	134					
260	135	53.8	95.8	197	173		113	446		716	1004	1096
250	112		56.6	137	153		94.0	444	643	711	995	1087
240	85.1		18.3	43.1	128		77.1	411	641	691	948	1033
230	60.7				96.0		61.9	344	616	654	864	937
220	43.0				65.9		49.3	177	566	604	739	801
210	8.5				45.1		37.5	12.4	487	531	592	653
200					8.0		12.4		383	448	457	515
190									282	368	358	409
180									210	299	297	342
170									158	246	258	298
160									126	205	227	263
150									104	175	198	231
140									89.7	150	169	199
130									80.9	128	147	169
120									74.9	115	129	151
110									61.6	12.4	112	78.9

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 9 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	2	2	0	A0	A0	A1	1	A1	A2	A2	2	0
HMIN	110	109	109	107			219	199	199	204	259	267
SCAT	47.1	62.8	51.8	53.4			34.5	33.4	31.8	59.8	55.2	43.5
HMAXF	282	308	302	294			284	271	256	343	362	340
SHMAX	855	1285	1264	1204			513	343	114	139	144	108
KM												
370											198	
360											198	
350										161	196	198
340										161	190	198
330										159	181	196
320										155	168	188
310		1316	1446							149	152	174
300		1310	1446	1420						139	134	156
290	960	1288	1427	1417			1143			127	114	132
280	960	1249	1382	1394			1139	794		114	89.6	97.8
270	944	1194	1305	1346			1097	793		100	54.8	40.6
260	904	1133	1207	1270			1005	773	286	86.2	5.6	
250	845	1028	1082	1173			867	716	284	72.5		
240	769	899	930	1052			685	622	269	60.1		
230	690	757	772	905			391	460	243	49.0		
220	607	610	624	731			58.9	262	196	38.8		
210	524	494	499	553				113	117	14.8		
200	451	410	408	425				12.4	12.4			
190	389	353	349	345								
180	339	314	307	292								
170	302	284	277	256								
160	273	259	251	226								
150	240	237	227	198								
140	200	211	201	173								
130	165	171	174	151								
120	150	152	153	137								
110	12.4	65.5	84.4	124								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 10 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	F0	0	1	1	A1	A0	F0	0	S0	0	0	0
HMIN	277	289	228	199	199		203	215		109	109	108
SCAT	56.1	36.9	50.4	40.3	20.5		62.3	35.1		32.7	36.1	35.2
HMAXF	397	354	319	278	232		357	292		244	251	251
SHMAX	170	94	153	176	25		133	147		465	591	703
KM												
400	219											
390	218											
380	214											
370	206											
360	194	198					143					
350	178	198					143					
340	160	191					141					
330	140	177					137					
320	120	157	240				131					
310	96.9	128	238				122					
300	69.2	91.7	231				111	310				
290	46.5	12.4	220				99.5	310				
280	12.4		205	335			87.9	301				
270			185	332			77.0	279				
260			156	319			66.9	247			875	1096
250			113	295			57.7	200		754	875	1095
240			61.7	263	97.2		49.6	134		751	855	1068
230			12.4	219	96.9		42.7	72.9		719	800	997
220				159	88.5		29.4	34.0		650	715	881
210				73.2	70.1		12.4			556	600	714
200				12.4	12.4					449	480	551
190										355	388	424
180										279	321	344
170										224	274	294
160										187	239	260
150										156	209	234
140										130	178	206
130										111	151	174
120										102	132	150
110										55.6	49.0	78.1

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 10 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	0	0	1	S1	A1	A2	2	2	3	3	A3	3
HMIN	109	107	109	109		109	209	199	199	200	217	258
SCAT	47.1	41.6	39.5	47.5		35.8	43.1	28.4	40.2	57.6	55.5	55.5
HMAXF	284	277	276	284		269	287	264	275	294	334	361
SHMAX	907	897	832	889		701	580	331	199	130	124	126
KM												
370												174
360												174
350												173
340											161	168
330											161	161
320											158	150
310											153	138
300										179	146	122
290	1050			1096			1096			179	135	103
280	1048	1131	1096	1094			1089		389	176	122	81.2
270	1026	1124	1089	1072		1072	1055	875	387	171	107	54.2
260	977	1083	1050	1023		1056	991	870	375	163	90.6	12.4
250	909	1013	973	953		992	895	819	351	152	73.7	
240	829	913	865	866		901	749	717	316	139	58.4	
230	728	787	734	752		784	543	550	263	123	43.5	
220	615	655	598	616		646	247	304	184	103	12.4	
210	512	537	482	494		500	41.5	110	96.5	78.7		
200	430	441	394	397		382		12.4	12.4	12.4		
190	373	376	337	326		289						
180	331	331	301	279		228						
170	299	300	276	245		188						
160	271	275	253	218		158						
150	245	251	228	191		134						
140	209	228	201	159		115						
130	167	205	178	141		100						
120	150	174	155	132		89.5						
110	55.6	118	110	76.1		55.6						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 11 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	3	3	1	1	1	3	3	3	2	2	S2	1
HMIN	243	212	207	225	226	257	236	249	115	109		106
SCAT	49.3	40.2	46.4	37.2	56.0	45.9	49.4	34.6	32.3	40.7		36.2
HMAXF	333	299	285	293	346	356	343	308	259	269		249
SHMAX	123	107	107	94	112	103	124	113	415	637		773
KM												
360						161						
350					143	160	179					
340	193				143	156	179					
330	193				140	148	176					
320	190				136	135	169					
310	183				129	119	158	262				
300	171	193		193	118	101	145	259				
290	157	191	189	193	106	79.8	127	244				
280	137	183	188	188	92.6	60.2	105	221				
270	112	167	183	175	78.5	43.8	82.4	183		875		
260	79.8	147	174	157	64.0	12.4	62.5	123	754	865		
250	44.2	121	164	129	50.1		45.6	12.4	741	827		1341
240		89.2	147	94.0	37.0		16.2		691	765		1320
230		59.7	119	50.0	9.7				606	676		1248
220		35.7	68.9						479	575		1129
210			20.3						332	473		923
200									231	381		659
190									178	306		397
180									144	249		300
170									119	205		260
160									94.5	170		230
150									76.0	145		196
140									68.7	127		162
130									64.7	116		142
120									60.7	105		134
110										65.8		118

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 11 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	1	1	1	1	1	1	1	1	0	A0	0	S1
HMIN	105	106	109	109	108	110	218	200	190	208	226	203
SCAT	34.8	38.9	52.4	57.0	58.5	38.7	48.0	36.5	43.0	57.9	64.8	69.4
HMAXF	244	246	267	276	308	284	299	262	262	306	357	343
SHMAX	526	577	670	668	873	802	757	435	194	105	123	135
KM												
360											139	
350											139	143
340											137	143
330											133	142
320											128	139
310					875					143	120	135
300					871		1341			143	112	130
290					854	1240	1328			141	102	122
280				716	824	1237	1287			136	89.9	113
270			754	714	782	1201	1215	1004	362	130	77.5	103
260			752	702	728	1123	1128	1004	361	120	64.7	91.5
250	764	794	736	678	663	1005	967	979	354	110	51.8	79.7
240	762	788	705	646	590	839	689	917	338	97.6	40.6	67.4
230	727	758	663	599	512	635	321	812	313	81.6	12.4	54.9
220	669	697	606	540	441	461	58.7	616	277	60.7		43.5
210	592	621	539	469	378	338		330	222	21.2		20.9
200	498	524	462	400	325	261		12.4	147			
190	403	426	391	340	280	213			12.4			
180	338	357	337	294	243	178						
170	296	310	296	261	212	150						
160	262	276	264	234	186	127						
150	224	248	237	208	161	110						
140	177	216	208	182	138	96.8						
130	146	181	174	151	118	91.2						
120	136	154	151	132	105	85.6						
110	127	128	87.7	49.0	90.6	12.4						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 12 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	S1	1	0	0	0	0	0	A0	0	0	0	0
HMIN	278	241	252	215	200	216	223	208	109	109	107	109
SCAT	58.7	55.0	40.4	28.6	57.2	57.8	47.1	36.9	32.6	40.2	35.4	32.2
HMAXF	389	355	331	273	295	334	310	274	224	249	261	242
SHMAX	150	121	108	92	115	107	88	119	257	418	642	581
KM												
390	193											
380	192											
370	188											
360	181	161										
350	170	160										
340	158	158	198			135						
330	143	152	198			135						
320	126	144	195			133						
310	106	133	185			129	143					
300	83.6	120	168		161	123	142					
290	54.5	104	147		160	115	137					
280	12.4	85.6	119	240	158	105	129	257				
270		66.4	88.9	239	153	93.4	117	256			917	
260		49.7	51.6	227	146	80.5	104	248			917	
250		29.3		201	136	66.8	85.3	231		573	896	960
240				157	125	53.7	62.0	207		566	836	960
230				97.5	111	41.5	39.7	163	446	541	745	929
220				44.4	90.1	12.4		101	445	498	643	852
210					61.8			25.6	426	438	521	723
200					2.6				384	369	409	565
190									325	306	330	418
180									256	256	281	327
170									193	218	249	280
160									148	185	224	252
150									120	158	201	227
140									103	136	179	199
130									93.2	118	157	174
120									86.0	105	139	156
110									51.0	75.8	110	97.2

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 12 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	A0	0	0	A0	A0	A1	1	1	1	1	1	A1
HMIN	109	108	109		108		208	200	200	199	209	268
SCAT	33.7	43.5	44.1		46.3		27.6	29.4	43.6	30.5	43.2	48.6
HMAXF	258	258	271		274		266	263	292	259	297	351
SHMAX	612	676	719		673		356	244	227	106	97	107
KM												
360												161
350												161
340												159
330												153
320												145
310												132
300									389		165	117
290									389		164	97.8
280			906		854				382		158	75.3
270			906		853		1004	608	365		147	55.5
260	875	917	891		835		993	605	338	262	133	40.0
250	863	909	852		795		918	576	301	257	116	5.5
240	811	878	791		739		780	513	249	238	95.2	
230	726	825	706		666		561	406	182	206	72.4	
220	620	741	605		576		178	281	121	156	47.6	
210	515	623	497		469		32.2	132	67.8	87.1	7.1	
200	417	490	403		372			12.4	2.6	12.4		
190	343	379	335		302							
180	297	309	292		252							
170	268	273	263		217							
160	244	248	240		189							
150	215	225	210		162							
140	180	192	176		132							
130	160	162	152		112							
120	150	151	136		104							
110	110	129	95.0		93.5							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 13 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q-KP	A1	A1	4	4	4	5	5	5	54	4	4	5
HMIN	202	226	237	242	198	200	197	198	109	109	106	104
SCAT	52.3	45.8	50.5	42.5	42.5	32.0	45.0	34.9	33.7	62.6	34.6	44.3
HMAXF	306	320	347	323	286	247	282	274	243	326	260	243
SHMAX	107	93	126	111	115	55	82	125	337	868	962	605
KM												
350			179									
340			178									
330		148	174	198						784		
320		148	167	198						782		
310	152	146	155	193						771		
300	151	139	141	183						747		
290	148	129	123	168	198		139			712		
280	142	117	101	148	198		139	262		672		
270	133	102	79.9	120	192		137	262		628		
260	122	85.2	60.4	87.4	180		131	252		580	1654	
250	108	67.8	44.0	46.9	163	143	121	231	643	530	1621	834
240	90.8	49.3	12.4		141	141	109	201	641	475	1518	833
230	72.4	17.1			114	133	92.8	155	617	419	1357	815
220	55.2				82.8	118	70.3	101	566	366	1107	774
210	35.0				53.5	96.2	47.9	58.2	483	318	786	715
200					12.4	12.4	12.4	12.4	352	279	538	634
190									199	247	397	537
180									132	219	317	430
170									101	193	266	327
160									82.5	168	226	264
150									71.8	138	192	229
140									68.1	109	161	204
130									64.6	94.8	137	167
120									61.2	88.2	122	141
110									43.5	71.4	110	129

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 13 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q-KP	5	5	3	3	3	A2	2	2	2	2	F2	A1
HMIN	109	107	106	108	109		200	200	209	218	287	247
SCAT	42.5	75.5	63.9	60.7	55.2		46.3	39.4	40.8	39.9	54.1	42.9
HMAXF	241	319	351	363	324		273	270	283	300	400	341
SHMAX	509	900	1144	1662	1674		754	281	164	130	230	183
KM												
400											310	
390											308	
380											300	
370				1528							287	
360			896	1527							268	
350			896	1510							244	310
340			889	1472							216	310
330			869	1408	2000						186	305
320		745	832	1333	1997						150	291
310		742	794	1229	1967					240	109	268
300		734	753	1113	1903					240	65.6	238
290		718	709	981	1810				310	236	20.3	200
280		695	665	855	1686		1341		310	224		154
270		669	621	741	1511		1340	557	302	205		106
260		635	576	643	1285		1315	548	285	178		61.6
250	679	590	530	559	1058		1259	519	259	145		19.6
240	679	542	485	487	808		1171	476	223	106		
230	668	489	441	427	596		1053	416	175	60.9		
220	637	437	399	377	438		887	338	115	12.4		
210	588	386	360	336	340		645	228	38.9			
200	522	343	322	303	277		83.8	12.4				
190	443	305	287	275	235							
180	366	272	256	250	203							
170	308	239	227	227	175							
160	271	202	195	203	149							
150	246	177	144	176	122							
140	222	163	148	149	105							
130	185	155	139	128	94.6							
120	157	149	133	119	88.7							
110	113	130	120	101	55.6							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 14 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q-KP	A1	A1	A1	A1	1	1	1	1	1	1	1	1
HMIN	236	219	217	210	209	213	234	238	109	110	107	109
SCAT	37.8	40.3	39.5	41.4	42.1	45.5	51.3	35.6	38.6	38.6	39.4	40.6
HMAXF	300	292	299	291	292	303	349	302	263	251	263	261
SHMAX	143	145	139	156	152	134	158	136	496	562	724	765
KM												
350							219					
340							217					
330							211					
320							201					
310	310					219	186	298				
300	310	286	262	286	274	218	168	297				
290	304	286	259	286	274	214	146	289				
280	288	280	248	281	268	205	122	270				
270	261	265	228	268	254	189	96.9	240	794		1004	1096
260	222	240	200	247	235	170	70.9	191	793	875	1003	1095
250	153	209	161	218	205	144	50.1	132	772	875	976	1075
240	48.9	162	110	176	164	115	24.0	34.9	724	858	918	1020
230		85.5	63.2	126	112	82.5			651	811	825	934
220		12.4	19.9	66.8	66.2	44.7			544	737	712	809
210				3.7	12.4				426	623	586	647
200									316	484	465	497
190									229	373	372	387
180									159	284	309	318
170									117	226	264	276
160									94.5	188	231	245
150									81.1	157	204	216
140									71.6	134	180	185
130									67.4	116	158	160
120									63.2	102	134	149
110									50.0	12.4	101	114

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 14 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q-KP	1	1	3	A3	3	3	3	3	3	3	3	F2
HMIN	108	107	107		109	109	207	200	199	248	238	268
SCAT	41.2	50.2	60.1		39.8	38.4	33.5	28.6	48.9	47.1	57.6	48.7
HMAXF	258	274	300		271	258	273	253	280	343	348	355
SHMAX	706	782	1245		704	588	400	177	121	126	180	159
KM												
360												257
350										198	240	256
340										198	239	251
330										195	234	240
320										187	226	224
310			1341							173	214	203
300			1341							157	199	174
290			1331						198	135	180	137
280		875	1303		1004		960		198	109	157	87.0
270		873	1255		1004		958		196	79.5	128	23.7
260	960	857	1192		985	960	921	477	190	51.3	91.2	
250	952	822	1117		932	950	844	475	179	12.4	55.5	
240	917	770	988		850	906	715	451	165		12.4	
230	849	704	830		735	832	486	397	147			
220	762	628	665		598	723	188	317	121			
210	644	547	527		468	579	38.7	183	84.9			
200	526	465	426		365	405		12.4	12.4			
190	417	393	355		294	275						
180	343	338	309		246	205						
170	296	300	280		211	163						
160	263	271	256		182	135						
150	234	245	232		154	114						
140	203	216	208		132	99.3						
130	173	182	187		120	91.6						
120	154	157	162		112	85.0						
110	124	144	142		55.6	12.4						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 15 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q-KP	F2	2	F2	2	2	3	S3	3	S2	2	A2	1
HMIN	228	208	219	211	199	210	258	227	109	109	107	109
SCAT	32.5	37.4	31.3	46.9	53.1	39.9	47.4	29.6	32.5	41.9	32.7	36.7
HMAXF	302	284	275	299	295	282	340	275	227	245	274	260
SHMAX	128	144	95	146	177	83	83	104	276	392	722	833
KM												
340							139					
330							138					
320							133					
310	286						126					
300	286			240	262		115					
290	277	286		238	262	161	102					
280	254	285	240	230	257	161	84.4	286			1096	
270	219	275	238	217	248	157	54.9	284			1091	
260	163	254	225	199	234	149	12.4	267			1044	1341
250	101	224	200	174	216	134		238		540	945	1317
240	59.0	186	163	144	193	116		181		538	814	1242
230	12.4	140	99.6	104	162	91.8		72.0	508	523	653	1121
220		74.7	12.4	54.7	117	60.7			502	490	507	932
210		22.3			69.5	4.1			473	445	397	704
200					12.4				422	388	327	486
190									339	329	282	347
180									248	275	249	291
170									177	227	218	248
160									134	185	186	228
150									108	151	155	200
140									92.8	127	135	175
130									75.6	103	124	157
120									62.1	91.0	117	146
110									12.4	72.6	97.9	110

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 15 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q-KP	1	1	1	A1	A1	A0	0	0	4	4	A4	F4
HMIN	109	109	108	108		110	206	200	199	233	290	266
SCAT	33.6	45.6	42.1	48.0		36.2	23.9	41.0	51.0	55.3	44.4	44.2
HMAXF	252	284	270	286		269	254	269	290	338	386	367
SHMAX	697	910	775	851		700	344	268	132	158	153	140
KM												
390											251	
380											250	
370											243	224
360											228	223
350											209	215
340										219	183	203
330										218	151	186
320										213	112	162
310										205	71.5	133
300										193	45.6	104
290		1096		1050					198	180	1.9	73.5
280		1093		1045					197	161		49.5
270		1069	1004	1019		1143		532	191	136		17.1
260	1096	1015	991	968		1123	1096	525	182	107		
250	1095	939	947	899		1059	1087	502	167	73.6		
240	1062	841	876	800		953	994	465	150	42.4		
230	975	727	786	673		808	810	410	130			
220	857	603	676	539		627	520	321	108			
210	699	490	555	431		451	116	201	82.4			
200	537	409	452	353		308		12.4	12.4			
190	415	352	370	301		235						
180	333	310	312	261		195						
170	289	281	274	228		165						
160	251	255	245	195		138						
150	222	226	216	167		117						
140	192	187	187	149		102						
130	167	162	165	139		92.7						
120	152	151	151	131		85.9						
110	127	97.2	130	106		12.4						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 16 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q-KP	F4	4	5	5	5	5	5	5	5	5	5	3
HMIN	302	221	243	209	199	258	218	208	109	109	109	108
SCAT	42.1	41.5	40.4	22.2	31.6	58.4	61.4	37.5	35.9	40.0	45.7	48.8
HMAXF	377	309	313	249	247	366	327	290	274	254	294	277
SHMAX	141	148	156	89	76	94	114	113	536	541	1065	1135
KM												
380	262											
370	261					123						
360	252					123						
350	235					121						
340	212					117						
330	181					111	143					
320	140		310			104	143					
310	76.3	262	310			95.0	141					
300		260	302			84.0	136				1341	
290		249	285			71.1	130	219			1338	
280		231	262			56.0	122	215	834		1309	1500
270		206	223			40.3	113	204	831		1248	1492
260		172	168			5.4	101	184	800	784	1153	1453
250		130	81.1	310	208		86.7	157	737	781	1027	1378
240		86.0		296	206		69.8	123	644	759	868	1279
230		47.1		252	193		49.2	82.7	530	711	708	1147
220				170	174		12.4	52.0	416	640	564	946
210				43.1	130			12.4	314	551	450	725
200					12.4				237	442	363	538
190									187	342	307	399
180									152	272	271	322
170									124	222	242	273
160									101	185	217	241
150									86.4	154	193	215
140									80.3	130	169	190
130									76.0	120	146	168
120									71.8	113	133	152
110									43.1	65.5	74.1	109

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 16 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q-KP	3	3	2	2	2	3	A3	3	2	A2	2	A1
HMIN	107	108	106	109	106	109	209	201	199	208	216	216
SCAT	51.4	52.6	50.8	41.6	49.8	43.6	35.7	30.2	39.6	40.2	69.3	59.2
HMAXF	284	313	302	281	287	276	279	272	286	274	369	346
SHMAX	994	1253	1335	1076	1009	792	443	284	240	138	189	175
KM												
370											193	
360											193	
350											190	214
340											185	213
330											178	210
320		1290									168	203
310		1289	1555								158	193
300		1271	1555								146	182
290	1143	1226	1533	1500	1240				446		131	167
280	1141	1160	1481	1500	1235	1096	917	661	444	286	115	147
270	1122	1074	1392	1476	1205	1090	901	660	428	285	99.2	124
260	1080	969	1277	1403	1151	1058	846	631	398	277	83.4	98.8
250	1017	863	1144	1305	1073	997	760	570	354	260	68.4	76.4
240	938	754	959	1142	968	908	641	479	295	234	54.1	56.9
230	846	652	784	969	846	798	495	361	219	200	41.0	42.0
220	739	559	642	775	706	676	325	217	133	135	12.4	12.4
210	623	482	523	581	575	548	55.6	105	70.2	28.3		
200	506	419	434	441	454	417			12.4			
190	404	368	366	345	352	302						
180	330	325	318	286	279	224						
170	280	290	282	249	230	177						
160	247	260	255	218	194	147						
150	217	230	227	190	164	125						
140	188	194	189	164	140	108						
130	164	170	162	142	124	95.3						
120	152	154	152	134	116	88.1						
110	122	137	133	109	97.3	55.6						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 17 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	A1	F1	2	F2	F2	F4	F4	4	S5	5	5	4
HMIN	206	228	218	209	201	210		229		109	107	105
SCAT	50.1	43.1	28.8	26.3	42.7	45.6		36.5		61.7	40.5	42.7
HMAXF	325	308	280	250	270	298		297		285	288	273
SHMAX	220	261	181	184	128	87		125		598	930	1068
KM												
330	310											
320	309											
310	303	477										
300	291	473				143		262				
290	271	456				142		260		608	1240	
280	247	427	477		240	138		248		606	1229	1446
270	216	386	463	540	240	130		225		598	1180	1445
260	181	328	421	540	236	117		195		582	1094	1414
250	142	251	348	520	226	102		152		555	967	1344
240	102	133	220	461	209	85.0		89.7		522	807	1234
230	70.7	26.9	106	356	185	65.8		12.4		484	653	1085
220	48.5		26.9	199	156	45.3				438	514	900
210	16.8			43.8	117	2.2				388	413	708
200										338	346	549
190										290	301	433
180										247	269	353
170										206	241	304
160										172	216	272
150										143	191	247
140										121	166	222
130										108	144	196
120										102	135	173
110										58.9	115	149

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 17 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	4	4	54	4	4	6	6	6	7	7	7	F5
HMIN	107	108	107	107	110	110	208	200	199	248	279	269
SCAT	66.0	49.9	46.8	54.6	47.3	37.1	41.8	44.6	55.0	43.5	45.2	55.6
HMAXF	303	288	302	306	312	285	287	283	344	342	380	381
SHMAX	1307	1035	1223	1159	1280	1125	773	618	388	286	302	390
KM												
390												540
380											477	540
370											471	535
360											454	521
350										477	424	498
340										476	477	384	469
330										469	468	335	427
320					1555					454	447	276	376
310	1328		1500	1303	1555					430	411	217	310
300	1328		1500	1299	1532					400	367	150	224
290	1315	1240	1477	1276	1475	1786	1446	1096		361	314	76.7	141
280	1288	1232	1414	1229	1375	1776	1437	1094		317	246	12.4	66.9
270	1245	1201	1325	1158	1245	1709	1388	1072		270	170		12.4
260	1187	1144	1197	1074	1092	1566	1291	1020		221	99.8		
250	1121	1060	1041	966	915	1375	1162	944		175	25.6		
240	1023	957	860	836	749	1170	999	839		134			
230	904	826	697	690	611	927	753	690		97.1			
220	757	677	559	551	498	676	397	492		65.6			
210	614	546	445	433	405	474	55.7	220		43.8			
200	491	432	368	355	341	334		12.4		3.4			
190	392	352	318	299	293	250							
180	323	304	280	259	253	206							
170	279	271	251	226	220	172							
160	249	238	225	197	192	144							
150	221	196	201	170	166	121							
140	182	174	178	148	140	102							
130	160	159	160	138	123	92.2							
120	151	151	150	131	115	85.7							
110	129	129	119	107	12.4							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 18 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	F5	5	F5	F5	F5	F5	F5	5	S5	5	5	5
HMIN	241	204						218		109	109	109
SCAT	28.1	37.7						21.4		28.3	44.1	38.7
HMAXF	314	280						267		258	267	270
SHMAX	433	265						106		576	721	883
KM												
320	1050											
310	1044											
300	982											
290	860	540										
280	682	540										
270	475	530						362			960	1240
260	280	500						353		1038	955	1221
250	98.5	453						309		1018	926	1160
240		385						208		932	876	1061
230		282						104		784	795	914
220		157						26.9		586	680	744
210		59.2								424	545	587
200										330	432	469
190										271	348	387
180										229	295	331
170										194	256	291
160										165	225	259
150										142	198	227
140										123	173	197
130										110	151	171
120										101	136	154
110										49.0	104	116

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 18 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	5	5	4	4	54	A2	2	2	3	3	3	2
HMIN	109	107	106	108	106	110	209	182	201	226	268	238
SCAT	56.0	38.3	56.9	43.9	41.9	47.7	37.6	45.8	35.1	44.2	38.9	50.3
HMAXF	308	284	297	286	283	295	275	266	280	322	354	346
SHMAX	1271	1114	1350	1119	961	1122	670	443	154	175	167	226
KM												
360											310	
350											309	335
340											300	334
330										286	281	327
320										286	251	314
310	1328									280	213	294
300	1322		1528			1555				268	164	268
290	1295	1555	1522	1446	1341	1551				247	113	231
280	1247	1551	1493	1439	1340	1516	1446		310	221	64.2	184
270	1176	1503	1440	1397	1309	1447	1439	794	304	186	12.4	133
260	1090	1394	1363	1313	1241	1353	1386	791	285	149		86.2
250	974	1227	1264	1193	1130	1222	1280	771	253	110		52.1
240	850	1055	1142	1052	990	1027	1130	731	210	65.5		12.4
230	728	849	971	903	828	795	868	675	159	26.2		
220	612	665	782	740	657	559	476	588	109			
210	517	532	617	588	498	383	58.9	458	62.0			
200	439	432	489	466	380	279		269				
190	379	364	388	375	301	222		91.5				
180	332	318	326	309	249	184						
170	295	285	284	265	212	152						
160	264	256	251	231	182	124						
150	235	226	221	202	153	103						
140	201	201	194	175	126	88.6						
130	173	171	171	150	110	80.6						
120	155	154	154	136	104	75.4						
110	110	128	135	113	97.5	12.4						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 19 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	2	2	3	3	3	A3	S3	3	5	A5	5	4
HMIN	220	210	201	198	232	258	257	209	109	106	109	109
SCAT	50.8	28.0	33.7	40.5	39.2	58.9	51.8	27.3	32.8	29.0	44.3	48.7
HMAXF	323	270	262	273	295	358	359	272	244	241	278	307
SHMAX	255	134	97	94	69	95	75	128	370	572	822	1264
KM												
360						127	108					
350						126	107					
340						124	104					
330	389					120	99.7					
320	388					114	92.2					
310	382					105	83.8					1446
300	369				143	96.8	72.5					1439
290	347				143	85.3	60.6					1402
280	320			179	138	70.7	49.1	335			1038	1334
270	282	362	224	179	129	50.9	34.2	335			1029	1228
260	224	351	224	175	117	12.4	6.9	320			991	1109
250	159	318	217	165	99.6			282	670	1131	929	964
240	93.8	260	200	150	65.9			220	667	1131	841	809
230	50.9	162	175	130				142	638	1090	729	664
220		74.7	137	101				70.6	578	984	607	549
210		2.0	77.5	63.5				12.4	486	812	490	458
200				12.4					355	557	398	393
190									248	375	335	346
180									183	272	294	309
170									142	216	261	279
160									114	180	232	251
150									95.2	150	203	225
140									82.9	127	172	199
130									76.6	111	147	170
120									68.4	104	134	152
110									12.4	88.9	99.3	114

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 19 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	4	A4	3	3	3	2	2	2	4	S4	4	4
HMIN	107		108	109	109	107	214	200	195	198	258	284
SCAT	36.5		44.3	52.6	46.8	40.4	39.3	37.4	59.2	49.9	58.3	46.3
HMAXF	273		275	304	286	283	293	270	297	302	378	364
SHMAX	1195		1022	1143	951	836	687	552	249	123	128	128
KM												
380											161	
370											160	219
360											157	218
350											151	214
340											144	204
330											133	189
320											121	170
310				1215						179	106	143
300				1214			1328		329	179	88.9	104
290				1194	1215	1143	1327		328	177	70.9	55.0
280	1907		1328	1153	1210	1141	1293		322	171	54.2	
270	1902		1324	1089	1179	1111	1214	1215	312	161	40.3	
260	1842		1290	1004	1121	1045	1101	1196	295	147	5.4	
250	1707		1220	904	1036	949	925	1132	275	131		
240	1507		1122	796	917	841	701	1027	251	111		
230	1225		988	687	777	719	455	842	224	89.2		
220	939		832	592	635	591	164	566	189	67.1		
210	653		670	508	505	470		187	146	46.6		
200	474		530	440	398	365			90.7	7.5		
190	372		429	380	321	283						
180	318		358	329	267	221						
170	282		308	285	227	181						
160	247		271	246	195	151						
150	205		242	212	167	127						
140	171		213	181	142	109						
130	157		178	152	125	95.0						
120	150		156	135	116	87.0						
110	130		133	90.5	46.8	64.6						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 20 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	E4	4	4	A4	A4	E4	S4	4	5	5	5	5
HMIN	261	243	231	220	200			219	108	108	109	108
SCAT	40.1	33.1	40.5	21.7	24.2			48.3	38.0	47.9	38.4	50.2
HMAXF	342	318	315	254	244			297	263	287	275	285
SHMAX	104	93	154	90	45			129	402	743	902	1113
KM												
350	193											
340	193											
330	189											
320	179	198	286									
310	163	195	285									
300	141	184	276					219				
290	113	162	259					217		896		1420
280	79.2	132	234					212		891	1341	1417
270	46.8	98.2	199					201	573	866	1335	1390
260		61.9	152	362				187	573	821	1287	1334
250		38.8	95.5	359	143			168	558	762	1189	1255
240			49.0	325	143			140	522	685	1056	1147
230				249	132			96.4	468	597	870	975
220				12.4	113			12.4	396	507	664	764
210					70.2				324	419	494	553
200					3.2				262	342	385	419
190									215	282	318	345
180									179	232	276	302
170									146	193	243	272
160									121	155	208	246
150									102	127	173	218
140									92.4	112	143	188
130									85.7	106	135	160
120									71.7	100	128	146
110									51.2	82.7	97.2	103

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 20 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	5	5	3	3	3	S4	4	4	3	S3	S3	3
HMIN	108	109	108	110	109		208	200	199	208	204	277
SCAT	59.3	55.2	66.7	51.2	40.6		32.4	43.5	37.8	35.1	66.0	67.3
HMAXF	305	293	312	286	287		277	283	283	276	334	409
SHMAX	1400	1234	1421	1036	925		626	486	224	131	128	144
KM												
410												161
400												160
390												158
380												153
370												147
360												139
350												130
340											143	119
330											143	106
320			1406								142	89.0
310	1514		1406								139	71.8
300	1511	1420	1396								134	55.2
290	1490	1418	1369	1240	1155			875	417		127	41.2
280	1447	1399	1323	1236	1145		1446	874	416	286	118	9.0
270	1375	1357	1262	1211	1093		1431	855	404	283	107	
260	1289	1287	1191	1163	1019		1350	812	376	270	96.4	
250	1185	1204	1107	1091	939		1202	748	335	245	84.9	
240	1057	1088	992	994	823		976	656	282	209	72.6	
230	890	928	851	879	713		694	525	223	156	59.7	
220	710	760	696	745	601		328	365	156	84.4	47.0	
210	561	598	557	609	495		50.6	173	92.4	23.7	23.4	
200	448	465	454	478	414			12.4	12.4			
190	371	381	378	373	350							
180	320	328	324	307	295							
170	284	291	287	264	247							
160	255	262	259	233	206							
150	225	235	234	204	176							
140	190	200	203	178	154							
130	162	165	165	151	132							
120	150	150	150	133	120							
110	122	78.9	91.9	12.4	76.1							

ELECTRON DENSITY

RAMEY AF8, PUERTO RICO 60 W 21 FE8 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	F3	F3	F4	4	4	3	S3	3	S4	4	4	A5
HMIN	272	240	210	220	225	208	195	209	111	106	109	108
SCAT	39.1	47.1	46.0	45.8	38.5	41.9	63.5	39.4	40.8	47.2	46.9	44.5
HMAXF	338	335	314	320	285	283	310	289	259	263	297	285
SHMAX	87	149	141	151	143	77	80	139	419	608	971	1197
KM												
340	179	240										
330	177	239		240								
320	169	234	219	240								
310	155	223	218	237			97.2					
300	137	207	213	228			96.6				1096	
290	110	187	204	213	310	143	94.9	262			1089	1669
280	60.7	157	187	194	309	143	91.9	259			1059	1663
270		114	167	168	298	140	87.7	247		754	998	1622
260		73.4	143	137	277	133	81.9	226	643	753	922	1535
250		45.8	113	99.1	248	121	74.7	197	636	739	831	1414
240		1.9	82.3	65.7	199	106	66.8	157	609	706	730	1243
230			57.7	42.7	102	86.1	58.1	109	565	655	626	985
220			40.4			60.7	48.8	64.2	498	595	529	744
210			.3			12.4	38.8	12.4	405	520	446	534
200							12.4		302	441	383	402
190									223	366	332	330
180									164	303	293	289
170									125	251	261	258
160									100	211	231	228
150									86.9	178	203	198
140									80.5	152	176	174
130									76.0	130	153	150
120									71.5	117	136	136
110										97.2	78.9	122

ELECTRON DENSITY

RAMEY AF8, PUERTO RICO 60 W 21 FE8 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	5	5	4	4	4	4	4	4	3	3	F3	4
HMIN	109	109	108	109	110	109	208	200	210	209	239	259
SCAT	41.6	54.0	56.0	51.2	48.4	59.5	41.3	37.6	42.4	40.6	60.0	50.0
HMAXF	283	295	301	309	295	303	289	268	291	289	358	352
SHMAX	1251	1412	1243	1344	1279	1351	789	586	284	166	169	170
KM												
360											208	262
350											208	262
340											204	258
330											197	249
320											186	234
310			1341	1542		1555					174	215
300		1555	1341	1529	1669	1554			508		159	190
290	1786	1552	1328	1488	1665	1536	1528		508	310	143	159
280	1783	1526	1293	1413	1630	1495	1509		499	307	124	118
270	1739	1473	1236	1318	1559	1432	1446	1240	477	294	104	71.2
260	1643	1389	1159	1189	1458	1356	1347	1227	440	272	80.8	12.4
250	1507	1285	1060	1040	1315	1254	1189	1172	389	242	50.6	
240	1293	1153	942	867	1144	1110	939	1073	322	197	6.8	
230	1050	1022	811	702	921	924	591	921	240	142		
220	799	886	680	566	701	715	200	702	146	78.3		
210	582	750	560	459	509	541	32.2	386	12.4	12.4		
200	441	616	460	390	380	406		12.4				
190	365	506	386	340	303	304						
180	316	412	333	300	256	242						
170	280	339	294	264	221	202						
160	246	291	261	232	192	172						
150	211	259	223	199	165	145						
140	176	226	180	167	140	123						
130	158	194	159	143	124	107						
120	148	172	149	133	115	97.1						
110	49.0	110	121	62.8	12.4	49.0						

ELECTRON DENSITY

RAMEY AF8, PUERTO RICO 60 W 22 FE8 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	4	4	3	3	3	3	3	3	3	3	S3	S3
HMIN	266	220	213	224	219	206	197	219	110	109	109	
SCAT	41.7	36.1	37.0	39.3	42.0	54.0	48.2	34.1	23.5	51.8	37.5	
HMAXF	347	304	290	292	290	326	298	275	225	269	270	
SHMAX	146	144	131	139	123	137	119	141	272	606	792	
KM												
350	262											
340	261											
330	251					179						
320	234					179						
310	210	286				175						
300	179	285	262	286		169	179					
290	142	275	262	286	235	159	178					
280	98.1	253	258	279	231	146	173	348			1131	
270	42.8	222	243	264	222	130	164	346		716	1131	
260		178	221	241	205	113	150	330		711	1111	
250		124	186	205	184	94.3	134	301		693	1049	
240		76.8	139	144	150	76.3	113	252		660	949	
230		47.4	88.2	59.2	101	58.7	92.0	151	608	616	799	
220		1.1	44.9		12.4	43.1	68.4	12.4	599	560	645	
210						12.4	47.2		542	496	510	
200							12.4		431	427	413	
190									294	355	345	
180									200	289	299	
170									150	236	266	
160									117	194	238	
150									95.6	163	209	
140									83.0	134	176	
130									77.8	112	144	
120									72.7	103	133	
110									12.4	80.1	98.4	

ELECTRON DENSITY

RAMEY AF8, PUERTO RICO 60 W 22 FE8 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	S3	S3	S2	2	S2	S4	4	4	3	3	3	3
HMIN			108	109	110	109	218	207	200	200	288	257
SCAT			36.9	42.5	52.3	42.5	46.9	42.3	40.0	37.4	45.7	50.7
HMAXF			276	260	286	285	309	291	274	267	377	356
SHMAX			1007	790	870	779	734	591	396	128	109	131
KM												
380											179	
370											178	
360											173	193
350											163	193
340											149	189
330											131	181
320											108	168
310							1240				82.0	153
300							1230	1096			54.7	134
290				1004	1038	1191	1096				12.4	112
280		1555		1001	1034	1123	1078	774				86.1
270		1546	1143	980	1004	1029	1029	771	262			55.2
260		1484	1143	938	942	898	951	748	260			18.1
250		1372	1126	883	857	716	838	701	249			
240		1203	1076	807	754	473	667	630	227			
230		946	997	713	640	199	457	526	198			
220		679	883	613	518	34.9	218	386	158			
210		492	723	512	408		57.6	222	110			
200		378	542	421	323			12.4	12.4			
190		314	388	348	260							
180		275	307	290	214							
170		243	267	243	178							
160		217	235	208	150							
150		196	202	181	130							
140		180	172	151	109							
130		172	156	125	94.7							
120		164	146	113	88.0							
110		122	73.0	12.4	55.6							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 23 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	3	F3	F3	F3	F3	F2	S2	2	S2	2	2	2
HMIN	263	249		248	239	222	197	199	107	109	106	108
SCAT	51.2	44.9		40.1	54.1	48.5	62.0	39.4	38.1	39.3	37.3	45.5
HMAXF	368	337		323	339	324	326	277	249	252	259	299
SHMAX	152	184		122	136	145	139	162	377	542	647	1102
KM												
370	219											
360	218											
350	212											
340	203	310			193							
330	189	308		240	192	219	161					
320	173	298		240	187	218	160					
310	150	280		234	179	214	158					
300	123	255		220	167	205	153					1393
290	92.9	223		199	153	190	147					1380
280	63.9	184		171	135	171	137	310				1331
270	37.9	130		127	114	149	127	307				1249
260		69.8		65.2	87.1	123	114	295		784	875	1146
250		12.4		12.4	53.3	92.3	99.4	273	608	783	861	984
240					6.1	61.5	84.9	242	600	767	814	791
230						37.2	71.0	199	571	723	738	614
220							57.4	144	523	657	646	482
210							43.9	74.5	452	566	547	394
200							12.4	12.4	354	462	449	339
190									259	366	374	303
180									188	293	320	275
170									142	243	281	248
160									114	207	248	215
150									98.6	177	217	184
140									79.3	152	191	167
130									68.4	127	169	156
120									63.8	110	142	149
110									54.2	95.7	120	129

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 23 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	2	2	3	3	3	2	2	2	2	2	2	4
HMIN	107	106	108	110	109	109	209	200	200	216	268	263
SCAT	45.2	60.8	52.9	47.8	42.2	35.9	46.1	44.6	41.6	51.6	47.5	52.9
HMAXF	276	312	301	288	271	278	292	271	274	323	368	379
SHMAX	1068	1301	1248	1087	871	804	804	456	167	183	156	211
KM												
380												286
370											240	284
360											238	276
350											231	264
340											219	246
330										262	200	223
320		1328								262	178	197
310		1328	1393							258	150	166
300		1316	1393				1446			249	118	134
290		1286	1378	1341			1446			235	83.0	101
280	1446	1238	1338	1331	1240	1240	1421	875	310	218	52.1	66.6
270	1441	1173	1265	1291	1240	1225	1363	875	309	194	12.4	40.4
260	1403	1093	1180	1219	1217	1163	1267	861	301	163		
250	1329	975	1070	1119	1160	1050	1148	824	284	127		
240	1234	843	929	1000	1066	907	956	767	258	91.3		
230	1075	706	779	855	940	743	644	682	223	58.7		
220	866	579	645	704	772	578	186	541	177	24.1		
210	661	473	525	560	595	445	12.4	292	121			
200	484	399	437	442	439	337		12.4	12.4			
190	378	353	373	362	343	261						
180	329	319	328	307	284	214						
170	287	290	296	267	241	177						
160	254	258	267	236	209	147						
150	218	216	236	211	183	120						
140	192	182	202	179	160	99.9						
130	176	162	174	145	135	92.2						
120	166	152	151	133	117	86.2						
110	138	140	125	12.4	82.9	44.7						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 24 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O+KP	4	4	4	4	4	1	1	1	S1	S1	1	1
HMIN	259	231	243	266	264	220	198	217	110	107	107	108
SCAT	45.2	38.7	37.8	48.2	48.1	42.0	53.4	36.7	35.3	37.4	43.5	50.6
HMAXF	342	296	317	349	357	307	302	271	249	243	279	281
SHMAX	159	107	100	119	137	125	155	175	338	524	838	1034
KM												
360					214							
350	274			193	213							
340	274			192	207							
330	269			186	197							
320	257		198	175	183							
310	241		197	162	165	219	219					
300	217	219	188	143	140	217	219					
290	181	217	172	121	110	210	216					1240
280	137	209	150	91.8	77.6	195	209	417			1050	1240
270	82.0	193	120	45.1	45.8	176	199	417			1038	1224
260	12.4	171	81.0			149	184	409			999	1184
250		139	44.4			118	166	384	608	794	930	1118
240		97.2				78.6	144	348	598	793	840	1031
230						47.1	117	284	564	771	726	917
220						1.1	87.7	105	507	720	611	785
210							56.3		419	642	508	645
200							12.4		304	541	424	520
190									185	434	362	407
180									123	342	313	340
170									92.0	273	269	298
160									77.6	227	230	263
150									70.1	190	193	226
140									67.1	160	160	187
130									64.1	138	143	161
120									61.1	120	134	150
110									12.4	96.7	112	117

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 24 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O+KP	1	1	0	0	S0	0	0	0	0	F0	F0	F0
HMIN	106	107	109	109	109	110	208	200	200	242	218	200
SCAT	42.2	45.1	46.1	47.9	49.6	47.1	32.5	32.6	36.1	34.9	56.4	56.3
HMAXF	262	256	267	272	285	287	269	261	258	305	334	329
SHMAX	981	764	758	764	788	910	450	326	135	108	168	221
KM												
340											219	
330											219	282
320											216	280
310										240	209	274
300										239	199	264
290					917	1240				230	184	248
280				917	915	1233				209	168	228
270	1393		917	917	897	1199	1143	794		181	149	205
260	1392	1004	913	903	858	1138	1122	794	310	143	127	176
250	1364	1000	888	868	803	1052	1049	772	306	84.2	102	143
240	1292	972	839	817	732	927	917	714	291		73.9	109
230	1189	918	772	740	646	773	687	614	265		49.3	80.6
220	1043	862	683	649	555	588	248	467	225		12.4	57.2
210	852	745	586	553	468	419	34.9	211	159			40.1
200	654	627	496	461	390	309		12.4	12.4			.6
190	490	501	421	384	328	243						
180	376	392	362	327	279	204						
170	317	322	316	282	237	174						
160	281	280	281	246	200	147						
150	253	249	251	215	167	123						
140	222	214	217	184	140	105						
130	188	179	178	161	124	93.8						
120	170	167	165	149	117	87.1						
110	145	142	78.9	68.6	78.9	12.4						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 25 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	F0	F0	F1	F1	1	2	2	2	0	A0	A0	A0
HMIN	259	233	206	203	205	197	238	199	108	108		105
SCAT	36.5	37.5	39.7	36.5	44.1	38.8	51.7	28.7	30.2	42.1		43.3
HMAXF	323	314	293	274	282	276	330	250	233	247		287
SHMAX	133	156	170	159	101	76	106	111	310	525		942
KM												
330	292						161					
320	291	310					159					
310	283	309					155					
300	263	300	310				147					
290	233	278	310		179		137					1143
280	190	246	302	335	179	143	124					1134
270	112	205	285	334	176	142	108					1097
260	12.4	148	257	323	168	137	86.2	310				1026
250		81.1	221	298	155	127	57.1	310		754		929
240		44.2	176	262	139	113	12.4	301	573	749		811
230			124	214	117	93.5		272	572	724		685
220			72.7	141	89.4	67.6		225	545	677		564
210			27.5	57.9	50.8	45.8		136	486	609		468
200						12.4		12.4	403	516		399
190									312	416		351
180									231	325		315
170									171	259		284
160									130	211		251
150									97.2	176		216
140									78.0	146		183
130									68.9	121		162
120									64.0	106		153
110									53.6	78.1		144

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 25 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	A0	0	1	S1	S1	S2	2	2	1	1	1	1
HMIN	110	109	107	109	109		229	200	199	207	200	242
SCAT	52.5	51.1	43.5	48.9	45.6		25.9	36.3	29.2	39.4	38.5	41.7
HMAXF	300	295	281	270	279		279	274	276	287	285	331
SHMAX	1183	1098	1007	838	807		393	398	262	176	129	103
KM												
340												179
330												179
320												176
310	1341											168
300	1341	1240										153
290	1328	1237	1341							331	240	134
280	1291	1214	1361	1004	1004		1143	834	608	329	239	112
270	1228	1166	1329	997	995		1106	832	600	316	230	84.9
260	1143	1094	1264	968	962		981	804	567	293	213	58.6
250	1033	1000	1175	915	902		786	745	482	260	188	35.0
240	904	878	1045	847	823		492	656	380	216	156	
230	754	742	870	763	727		58.9	528	263	162	118	
220	605	620	677	662	617			358	155	97.6	78.4	
210	486	515	514	547	508			156	72.4	36.8	48.3	
200	405	432	410	443	411			12.4	12.4		.7	
190	349	372	347	361	337							
180	309	328	308	304	284							
170	275	293	280	263	245							
160	241	262	254	230	213							
150	205	230	223	196	185							
140	182	198	189	170	162							
130	171	176	160	155	142							
120	161	163	149	146	129							
110	12.4	112	111	74.8	55.6							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 26 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	1	1	0	0	0	S1	1	1	1	A1	1	1
HMIN	260	240	234	209	199	198	295	219	109	109	109	109
SCAT	41.7	39.5	31.1	26.0	37.5	31.2	45.2	38.1	35.2	37.9	38.7	45.9
HMAXF	350	325	303	257	267	251	371	285	240	251	250	271
SHMAX	104	108	96	87	87	39	51	146	365	529	570	774
KM												
380							90.4					
370							90.4					
360	179						89.1					
350	179						85.6					
340	176						79.0					
330	169	198					71.4					
320	155	198					61.7					
310	137	191	219				49.6					
300	114	179	218				21.7					
290	90.1	160	210					310				
280	64.6	134	189					308				982
270	42.2	105	158			179		297				982
260		70.8	119	262	178	97.2		275		834		969
250		45.6	77.2	258	170	97.2		246	608	834	794	930
240		1.9	40.6	235	157	94.0		192	608	817	781	876
230				193	139	85.8		112	595	769	739	787
220				119	110	73.5		12.4	556	695	673	668
210				12.4	68.7	54.9			496	586	591	545
200					12.4	12.4			406	449	498	440
190									314	331	412	363
180									237	250	337	314
170									178	198	283	278
160									141	157	244	246
150									117	136	211	213
140									104	125	179	181
130									86.0	120	158	161
120									73.4	114	146	151
110									38.9	65.5	97.2	116

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 26 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	1	1	1	1	A1	1	1	1	1	1	1	3
HMIN	108	109	109	109	109	110	209	200	199	209	224	216
SCAT	47.9	42.9	53.1	48.9	43.9	40.7	45.5	37.0	42.7	44.9	43.2	40.8
HMAXF	282	272	291	296	280	284	293	277	278	312	312	300
SHMAX	1000	906	904	1051	810	757	668	440	273	236	193	156
KM												
320										382	335	
310										382	335	286
300			960	1240			1191			375	328	286
290	1240		960	1235		1050	1189			359	313	281
280	1240	1215	949	1207	1096	1047	1166	865	508	334	289	268
270	1222	1214	922	1153	1082	1018	1111	856	504	299	254	246
260	1177	1190	876	1072	1037	955	1033	814	486	252	210	217
250	1107	1133	815	966	968	866	907	745	454	195	155	179
240	1007	1045	733	837	873	750	737	647	409	136	90.9	127
230	864	911	646	693	743	624	500	522	339	84.6	45.4	72.4
220	699	742	558	558	594	501	212	375	241	50.2		27.5
210	549	578	474	449	463	401	12.4	212	131	6.8		
200	443	447	411	374	353	317		12.4	12.4			
190	372	369	365	321	277	254						
180	327	323	328	284	232	209						
170	292	293	295	256	199	173						
160	263	267	264	232	169	141						
150	234	239	228	209	146	114						
140	198	207	192	186	130	97.6						
130	178	179	165	161	122	91.9						
120	168	168	152	147	116	86.5						
110	134	78.9	84.9	55.6	84.9	12.4						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 27 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	3	3	2	2	2	2	2	2	S3	3	3	3
HMIN	219	231	276	249	206	197	209	199	109	108	108	108
SCAT	41.3	48.8	51.8	49.3	32.9	49.9	53.2	29.1	27.0	30.2	41.0	45.9
HMAXF	314	336	367	354	277	295	308	261	236	240	259	274
SHMAX	128	130	129	131	91	107	112	142	321	481	656	865
KM												
370			193									
360			193	193								
350			188	193								
340		193	180	190								
330		193	169	182								
320	219	188	156	170								
310	218	179	136	157			161					
300	213	166	111	136		161	160					
290	201	150	81.6	112		160	156					
280	181	129	47.5	85.3	198	157	149					1050
270	157	105		61.4	196	151	140	362				1047
260	127	77.4		42.3	184	141	128	361			875	1024
250	94.7	54.6		4.1	164	129	113	349		834	865	972
240	64.0	35.6			134	113	94.5	314	643	834	827	900
230	43.0				98.5	92.1	71.6	259	635	811	764	816
220	3.6				63.0	69.5	47.6	175	584	740	682	717
210					26.2	48.5	7.1	87.8	493	629	588	611
200						12.4		12.4	376	491	489	506
190									263	374	402	414
180									187	299	332	342
170									138	249	282	298
160									106	205	242	264
150									88.1	168	207	227
140									81.1	139	175	185
130									77.3	119	147	161
120									73.5	105	135	151
110									49.0	86.6	115	129

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 27 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	3	3	1	A1	A1	A1	S1	1	2	2	F2	3
HMIN	108	108	109		112		230	210	200	209	259	251
SCAT	45.3	45.7	59.1		46.4		36.7	43.7	29.9	36.9	43.0	47.6
HMAXF	296	284	315		289		295	286	262	275	348	358
SHMAX	1119	932	1292		775		585	678	348	208	139	240
KM												
360												362
350											240	359
340											238	348
330											230	328
320			1341								214	301
310			1339								192	267
300	1303		1320				1328				165	228
290	1297	1096	1282		917		1321	1316			133	182
280	1263	1094	1224		909		1271	1309		446	89.2	132
270	1191	1071	1156		881		1168	1271	875	444	52.9	82.9
260	1100	1018	1053		825		1016	1197	874	427	6.1	46.8
250	967	945	915		758		771	1099	841	394		
240	827	852	766		680		206	911	758	344		
230	696	746	622		590		12.4	589	632	267		
220	578	640	510		498			227	438	165		
210	490	537	428		412			12.4	196	38.9		
200	425	444	373		342				12.4			
190	378	375	336		293							
180	341	326	308		255							
170	313	291	282		221							
160	287	260	252		188							
150	257	229	214		161							
140	219	201	178		144							
130	186	179	150		135							
120	170	168	150		125							
110	138	117	124									

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 28 FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	3	3	3	3	3	3	S3	3	3	3	3	2
HMIN	268	248	208	210	202	200		202	110	109	105	109
SCAT	41.8	42.5	35.6	37.5	27.4	16.4		43.5	35.9	51.0	44.3	44.7
HMAXF	348	342	288	281	253	224		292	241	283	275	285
SHMAX	158	170	163	126	75	22		178	351	794	880	1001
KM												
350	286	286										
340	283	285										
330	272	280										
320	252	266										
310	225	243										
300	192	214						310				
290	151	179	335	262				310		960		1215
280	98.1	139	331	262				304		960	1084	1212
270	26.9	95.3	314	256				291		946	1080	1182
260		56.0	285	241	214			270		912	1051	1121
250		12.4	240	219	213			241	573	861	994	1031
240			178	183	202			198	573	793	911	916
230			111	123	179	112		142	560	701	805	787
220			61.0	61.4	136	110		83.7	522	597	692	649
210			12.4	4.1	69.1	92.1		45.8	465	490	584	528
200						12.4			388	395	488	438
190									305	318	411	377
180									228	260	349	336
170									172	213	300	305
160									137	172	258	274
150									115	141	222	244
140									93.5	126	194	216
130									80.4	120	166	186
120									74.0	113	141	159
110									12.4	73.0	127	105

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 28 FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	2	2	3	3	3	2	2	2	1	1	F1	3
HMIN	106	107	109	108	109	109	228	199	200	199	189	236
SCAT	65.9	52.1	44.0	46.6	48.2	45.6	44.4	34.3	37.1	31.2	74.2	46.1
HMAXF	313	286	289	283	297	293	305	273	271	260	340	329
SHMAX	1410	1146	1023	957	915	942	676	519	406	184	255	130
KM												
350											240	
340											240	
330											239	208
320	1341										236	207
310	1341						1316				230	200
300	1329				1050	1203	1312				222	187
290	1302	1328	1240	1215	1045	1201	1280				211	171
280	1259	1324	1228	1214	1018	1177	1213	1131	865		198	150
270	1201	1296	1184	1191	965	1122	1126	1129	864	446	183	127
260	1138	1244	1106	1139	896	1040	958	1090	846	446	168	95.3
250	1037	1165	1001	1060	812	933	677	1004	795	435	153	66.3
240	924	1067	876	954	713	801	195	880	715	398	137	27.5
230	808	938	745	826	612	659	32.2	694	592	342	121	
220	691	791	621	671	515	528		451	414	263	107	
210	581	644	509	522	427	420		160	165	156	94.1	
200	485	515	426	412	357	336		12.4	12.4	12.4	81.6	
190	407	414	367	340	302	275					51.3	
180	349	350	324	291	262	231						
170	310	310	291	253	232	197						
160	282	281	262	218	204	169						
150	256	254	233	182	174	145						
140	231	227	203	155	145	125						
130	202	199	169	140	126	110						
120	178	176	152	132	117	99.9						
110	148	152	110	106	65.5	45.5						

AVERAGE ELECTRON DENSITY — KP BELOW 4.5

RAMEY AFB, PUERTO RICO — 60 W — FEB 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
COUNT	25	26	22	24	24	22	22	25	19	20	17	21
KP	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.2	2.0	1.9	1.9	1.7
HMIN	250	235	228	219	217	235	228	216	109	109	108	108
RATIO	5.8	6.2	6.6	7.3	6.2	6.0	5.1	7.2	6.0	5.1	5.0	4.8
SCAT	46.0	41.9	39.6	37.9	47.1	46.0	51.5	36.3	34.7	41.3	39.2	42.4
NMAX	241	263	275	295	195	173	167	311	644	799	1110	1246
HMAXF	340	320	307	290	302	326	332	284	244	257	267	273
SHMAX	145	145	138	136	118	110	117	143	369	565	779	927
SHINF	824	888	914	967	669	598	587	1021	2187	2817	3912	4443
KM												
950	18.8	18.5	17.9	17.5	12.9	13.3	12.5	18.3	31.3	41.4	60.4	70.2
900	24.1	23.7	23.0	22.5	16.5	17.0	16.0	23.5	40.2	53.1	77.5	90.2
850	30.9	30.4	29.5	28.9	21.2	21.8	20.5	30.2	51.6	68.1	99.4	116
800	39.6	39.0	37.8	37.1	27.1	28.0	26.3	38.7	66.2	87.4	128	148
750	50.6	49.9	48.5	47.5	34.8	35.8	33.6	49.6	84.9	112	164	190
700	64.6	63.8	62.0	60.8	44.4	45.7	43.0	63.4	109	144	209	244
650	82.2	81.4	79.1	77.6	56.6	58.1	54.7	81.0	139	184	268	311
600	104	103	100	98.7	71.9	73.4	69.2	103	178	234	341	397
550	130	130	127	125	90.5	91.9	86.9	131	226	297	433	503
500	160	161	158	156	113	113	107	164	286	375	545	632
450	192	196	194	193	137	135	129	203	358	467	678	784
440	198	203	201	201	142	140	134	211	373	487	707	816
430	204	210	208	208	147	144	138	219	390	508	736	849
420	210	217	216	216	152	148	142	228	406	529	766	883
410	215	224	223	224	157	152	146	236	423	550	795	916
400	220	230	230	232	162	155	150	244	440	571	826	950
390	224	236	237	239	166	158	153	253	458	593	856	984
380	228	242	243	247	170	161	156	261	475	614	886	1017
370	230	247	249	254	174	163	158	269	493	636	915	1049
360	232	251	255	261	178	163	160	276	510	656	944	1080
350	231	255	259	267	181	163	161	283	527	677	971	1110
340	229	257	263	272	183	160	160	290	544	696	998	1138
330	224	257	266	277	184	155	158	296	560	715	1022	1164
320	215	255	267	280	184	148	156	300	576	732	1044	1186
310	202	249	265	282	183	139	151	304	590	748	1064	1206
300	183	238	260	282	179	128	143	307	604	761	1080	1221
290	163	220	250	279	175	113	133	306	616	771	1093	1229
280	136	198	231	271	169	99.1	122	301	626	779	1099	1229
270	105	168	210	258	160	87.6	107	289	634	783	1096	1213
260	70.7	133	182	240	148	75.4	89.1	267	639	783	1081	1179
250	47.9	93.0	144	214	133	64.9	71.4	233	640	775	1039	1118
240	28.5	56.2	97.2	178	112	54.3	53.7	187	632	754	961	1027
230	15.0	25.3	51.7	135	85.6	43.1	39.1	129	604	709	845	912
220	6.0	8.6	22.3	79.0	56.4	28.6	25.8	65.9	553	641	707	771
210	2.4	.9	6.3	34.4	34.7	12.8	13.6	24.4	472	552	564	620
200				7.1	4.3	2.3	3.4	2.2	368	448	448	486
190									266	354	366	384
180									194	282	308	322
170									146	231	267	283
160									115	192	233	252
150									95.5	161	203	222
140									83.3	137	174	191
130									75.6	119	151	166
120									69.7	108	134	151
110									31.8	68.0	101	113

AVERAGE ELECTRON DENSITY — KP BELOW 4.5

RAMEY AFB, PUERTO RICO — 60 W — FEB 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
COUNT	19	19	26	21	21	17	26	26	26	25	26	26
KP	1.8	1.5	1.9	2.0	2.1	1.9	1.9	1.9	2.1	2.1	2.1	2.1
HMIN	108	108	108	108	109	109	212	201	202	216	242	245
RATIO	4.6	4.4	4.3	4.4	4.5	5.0	7.1	7.0	6.3	5.9	5.2	5.3
SCAT	46.4	49.3	50.2	49.1	47.5	42.6	38.2	37.6	41.6	45.4	51.5	49.7
NMAX	1231	1154	1241	1176	1151	1179	1169	810	409	265	233	240
HMAXF	279	285	291	288	288	281	284	272	282	307	347	347
SHMAX	991	994	1070	989	929	839	566	387	215	155	160	159
SHINF	4463	4249	4570	4306	4175	4164	3862	2672	1369	902	818	837
KM												
950	71.8	69.4	76.9	72.2	70.1	69.0	69.6	45.2	23.7	17.5	19.0	19.4
900	92.2	89.0	98.7	92.7	90.0	88.6	89.3	58.1	30.4	22.4	24.3	24.9
850	118	114	127	119	116	114	115	74.5	39.0	28.7	31.2	31.9
800	152	146	162	153	148	146	147	95.6	50.0	36.8	40.0	40.9
750	194	188	208	195	190	187	188	123	64.1	47.2	51.1	52.3
700	249	240	266	250	243	239	241	157	82.0	60.3	65.3	66.8
650	318	307	340	319	310	306	308	201	105	76.9	82.9	84.9
600	405	390	432	406	395	389	392	256	133	97.7	105	107
550	513	494	547	513	499	493	496	324	169	123	131	134
500	643	619	684	642	625	619	623	408	212	153	160	165
450	795	764	842	790	771	765	769	506	263	187	191	197
440	828	795	875	822	802	797	800	527	274	194	197	203
430	861	826	908	853	833	828	832	549	285	201	203	209
420	894	857	942	885	864	860	863	571	296	208	208	214
410	927	888	975	916	895	892	895	593	307	215	213	220
400	960	919	1008	947	926	924	927	615	318	221	217	224
390	993	949	1040	977	957	956	958	637	329	228	221	228
380	1025	979	1071	1006	986	987	988	658	340	234	224	232
370	1056	1007	1101	1035	1014	1017	1017	680	350	239	226	234
360	1085	1034	1129	1061	1041	1046	1045	700	360	244	226	235
350	1113	1059	1154	1085	1066	1073	1071	720	370	248	224	235
340	1139	1082	1177	1105	1088	1098	1095	739	378	251	219	232
330	1162	1102	1196	1122	1107	1120	1116	756	386	253	211	225
320	1182	1118	1210	1135	1123	1140	1134	771	393	253	199	214
310	1198	1131	1220	1143	1134	1155	1148	785	399	251	183	199
300	1209	1137	1224	1146	1138	1167	1157	795	403	247	165	179
290	1212	1135	1216	1141	1134	1172	1158	803	404	239	144	156
280	1205	1123	1194	1125	1119	1168	1142	806	403	227	123	126
270	1183	1095	1155	1093	1081	1144	1101	801	396	212	100	95.8
260	1144	1049	1094	1039	1019	1093	1023	777	378	191	75.9	66.3
250	1080	982	1010	965	935	1011	895	727	348	164	59.6	42.9
240	990	892	897	870	831	897	694	644	306	132	42.8	26.6
230	872	783	768	759	710	759	457	520	250	99.2	28.6	12.9
220	737	665	637	637	585	605	213	360	179	66.1	16.2	5.4
210	599	552	520	517	470	463	62.0	176	91.4	30.2	7.4	2.3
200	481	455	429	419	377	344	4.2	19.4	16.4	2.5	3.2	
190	391	381	363	347	310	262		3.5	.5		2.0	
180	332	330	317	297	262	209						
170	293	294	282	260	225	173						
160	262	265	252	229	195	145						
150	232	236	222	200	167	122						
140	200	205	192	172	144	105						
130	173	178	166	150	126	94.1						
120	158	161	152	137	115	87.1						
110	109	125	115	84.4	61.5	34.7						

TABLES OF IONOSPHERIC DATA

DECEMBER 1960 - OCTOBER 1957

Table 1

Washington, D. C. (38.7° N, 77.1° W) — December 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.6	29	290					2.88
01		3.5	24	305					2.78
02		3.7	28	300					2.90
03		3.5	31	275					2.90
04		3.4	29	270					3.00
05		3.2	30	270					3.00
06		(3.0)	27	(275)				2.6	3.00
07		(3.7)	29	260		---	----	2.8	(3.10)
08		6.9	31	230		125	2.00	2.2	3.35
09	---	8.35	30	230		111	2.50		3.30
10	(240)	10.2	31	230	---	<114	2.85		3.20
11	240	11.2	30	230	---	115	3.10		3.20
12	240	10.95	30	225	---	115	3.18		3.10
13	235	10.8	29	230	---	113	3.10		3.10
14	(250)	11.0	29	235		113	2.95		3.10
15	(240)	10.8	29	235		115	2.55	2.9	3.10
16		10.3	31	230		119	2.15	2.3	3.15
17		9.2	31	225		---	----	1.7	3.15
18		8.3	30	225					3.15
19		6.5	29	220					3.15
20		4.8	31	240					3.10
21		4.2	29	260					3.00
22		3.9	28	275					2.90
23		3.65	30	280					2.88

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 2

Resolute Bay, Canada (74.7° N, 94.9° W) — November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.4	13	285					----
01		(5.2)	18	290					----
02		5.6	19	280					----
03		5.6	16	285					----
04		(5.9)	13	285					
05		(5.5)	11	300					----
06		5.6	15	300					----
07		6.0	13	300					----
08		6.1	15	290					----
09		6.3	17	295		---	----		(2.80)
10		6.0	17	260		---	----		----
11		6.3	17	280		---	----		----
12		6.2	19	280		---	----		----
13		6.5	17	250		---	----		----
14		6.0	20	270		---	1.70		(2.80)
15		6.8	22	270		---	----		----
16		6.8	22	270					(3.00)
17		6.2	19	270					(2.80)
18		6.0	23	280					----
19		6.2	19	285					----
20		6.0	20	290					----
21		(6.0)	20	290					----
22		6.0	17	295					----
23		(5.2)	16	295					

Time: 90.0°W.
Sweep: 1.5 Mc to 20.0 Mc in 15 seconds.

Table 3

Tromso, Norway (69.7° N, 19.0° E) — November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.4)	3	---				3.9	
01		(2.9)	5	---				4.0	----
02		(3.0)	4	---				4.6	----
03		(3.4)	8	---		---	----	3.8	(2.50)
04		(3.9)	9	(295)		---	----	3.2	----
05		(3.9)	12	(290)				2.8	----
06		(3.4)	9	(275)				2.0	(2.70)
07		3.2	13	(295)		---	----	2.8	(2.65)
08		3.8	16	(270)		---	----		2.80
09		5.8	12	(250)		---	----		(3.10)
10	---	6.8	14	(245)		---	----		3.05
11	(245)	8.5	17	---		---	----		3.00
12	245	8.5	17	---		---	----		3.05
13	(245)	8.1	21	245		---	----		3.00
14	---	6.9	15	245		---	----		2.95
15		4.8	10	250				2.0	(2.90)
16		(4.0)	8	(245)				2.6	----
17		(4.9)	5	(245)				2.9	----
18		(4.2)	4	(255)				3.0	----
19		(4.2)	6	---				3.2	----
20		(4.2)	2	---				3.0	----
21		(4.3)	3	---				5.0	----
22		(3.8)	2	---				3.2	----
23		(3.8)	3	---				3.1	----

Time: 15.0°E.
Sweep: 0.7 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 4

Kiruna, Sweden (67.8° N, 20.3° E) — November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.0)	9	335				4.6	(2.6)
01		(3.2)	7	345				4.0	(2.6)
02		(3.0)	5	335				4.0	(2.6)
03		3.7	10	310				3.4	(2.6)
04		3.3	12	<295				3.0	(2.6)
05		3.3	15	<295				2.8	2.7
06		3.0	16	290				2.4	2.8
07		3.2	15	290					2.8
08		4.0	22	265		---	---		2.8
09		5.8	19	250		---	---		3.0
10		6.8	19	240		---	---		3.0
11		8.3	21	240		---	---		3.0
12		8.6	21	240		---	---		3.0
13		8.0	23	240		---	---		3.0
14		7.0	17	235		---	---		3.0
15		6.4	15	235					3.0
16		4.6	13	240					2.8
17		(3.3)	8	250				2.5	(2.85)
18		(2.3)	9	275				2.8	(2.8)
19		(3.6)	4	270				3.0	----
20		(3.3)	6	300				3.4	----
21		(3.6)	4	310				3.8	----
22		(3.3)	3	(340)				4.4	----
23		(4.1)	7	(355)				4.5	(2.6)

Time: 15.0°E.
Sweep: 0.8 Mc to 15.0 Mc in 30 seconds.

Table 5

Sodankyla, Finland (67.4° N, 26.6° E) — November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.1)	1	350				3.4	
01		---	0	360				3.5	
02		---	0	350				(3.6)	
03		---	0	330				(3.3)	
04		---	0	330				2.8	
05		(2.4)	1	320				(3.3)	----
06		(3.2)	2	300				2.2	----
07		(2.8)	1	310		---	---	2.4	----
08		(4.0)	2	280		---	E	(2.8)	----
09		5.7	15	260		---	E	(3.0)	2.95
10		6.1	21	250		---	---	(3.3)	3.00
11		7.8	19	245		---	---		3.00
12		9.2	16	240		---	---	2.8	3.10
13		9.4	16	240		---	---	(3.3)	3.00
14		8.5	15	235		---	---	(3.3)	3.05
15		8.3	10	240		---	E	2.6	3.05
16		(8.2)	4	245		---	E	2.9	----
17		(7.3)	6	260		---	E	(2.6)	(2.95)
18		(5.8)	2	270		---	---	(3.2)	----
19		(4.9)	3	280		---	---	3.0	----
20		(4.8)	3	315				2.3	----
21		(4.3)	3	300				2.3	----
22		(4.2)	6	325				3.4	----
23		(2.9)	3	335				3.7	----

Time: 30.0 E.
Sweep: 1.4 Mc to 22.0 Mc in 8 minutes, automatic operation.

Table 6

Lulea, Sweden (65.6° N, 22.1° E) — November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.0	13	355				1.9	2.65
01		3.2	10	330					(2.7)
02		3.1	17	330					2.6
03		3.0	14	310					2.9
04		3.3	15	310					2.8
05		2.8	16	300					2.9
06		2.7	17	295					2.8
07		2.8	15	280					2.8
08		5.0	20	250		---	---		3.1
09		6.3	17	240		---	---		3.2
10		7.3	17	240		---	---		3.2
11		8.2	18	240		---	---		3.2
12		9.4	17	245		---	---		3.2
13		9.0	19	240		---	---		3.3
14		8.3	18	230		---	---		3.2
15		6.8	18	230		---	---		3.1
16		5.6	15	240					3.2
17		4.8	14	245					3.1
18		3.7	15	250					3.0
19		3.5	11	250					2.95
20		3.3	10	290					(2.8)
21		3.2	10	305				(2.2)	(2.75)
22		4.0	11	315				(2.3)	2.65
23		(3.0)	9	350				(2.2)	(2.65)

Time: 15.0°E.
Sweep: 0.66 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 7

Lycksele, Sweden (64.6° N, 18.0° E) November 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		3.6	20	330		---	----	3.1	2.5
01		(3.6)	22	320		---	----	3.0	(2.5)
02		(3.6)	20	300		---	----	3.2	(2.5)
03		(3.2)	23	300		---	----	2.7	(2.5)
04		(3.1)	23	290		---	----	3.0	2.55
05		3.2	23	275		---	----	2.6	2.6
06		2.6	22	275		---	----	2.3	2.6
07		3.2	23	255		---	----	2.8	2.6
08		4.4	25	245		110	1.40	3.0	2.8
09		6.2	24	235		---	2.00	2.8	3.0
10		7.4	24	230		---	2.10	3.3	3.0
11		8.5	26	235		---	----	2.6	3.1
12		9.1	26	230		---	2.20	2.7	3.1
13		9.2	24	230		---	2.10		3.1
14		8.6	23	220		---	----	2.8	3.1
15		>7.6	24	220		---	1.30	3.0	3.0
16		6.3	22	230		---	----	3.1	3.0
17		5.4	20	235		---	----	3.0	3.0
18		4.0	22	240		---	----	3.1	2.85
19		3.5	20	245		---	----	3.0	2.7
20		(2.7)	21	260		---	----	2.5	(2.6)
21		(2.8)	19	285		---	----	3.0	2.6
22		3.1	18	(280)		---	----	3.0	2.45
23		3.5	17	310		---	----	3.1	2.5

Time: 15.0°E.
Sweep: 0.33 Mc to 20.0 Mc in 3 minutes.
Occasionally, 1.4 Mc to 16.0 Mc in 6 minutes, automatic operation.

Table 8

Nurmijarvi, Finland (60.5° N, 24.6° E) November 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(2.9)	1						----
01		---	0						
02		(2.4)	1						----
03		(2.4)	2						----
04		(2.4)	3						----
05		(2.2)	2						----
06		(2.4)	5						(2.90)
07		(3.2)	4						----
08		5.4	11						3.00
09		6.0	17						3.20
10		8.4	19						3.30
11		9.8	21						3.20
12		10.2	23						3.20
13		10.4	23						3.20
14		9.4	25						3.20
15		8.8	17						3.20
16		9.2	15						3.20
17		8.4	12						3.20
18		7.1	10						(3.10)
19		(5.3)	6						(3.10)
20		(4.0)	4						----
21		(3.0)	4						----
22		(3.0)	5						(2.90)
23		(3.0)	3						----

Time: 30.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 1 minute.

Table 9

Upsala, Sweden (59.8° N, 17.6° E) November 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		2.9	11	345		---	E	3.1	2.6
01		2.4	14	315		---	E	3.1	2.7
02		2.4	15	310		---	E	3.2	2.6
03		2.4	16	300		---	E	2.7	2.65
04		2.5	20	300		---	E	2.2	2.7
05		2.6	24	270		---	E	2.5	2.8
06		(2.4)	25	260		---	E	2.4	(2.9)
07		3.8	26	255		135	1.00	1.3	2.85
08		5.0	29	240		(105)	1.80	2.8	3.2
09		6.8	29	235		<115	2.10	2.5	3.2
10		8.0	29	235		(110)	2.25	2.9	3.3
11		9.1	27	235		<115	2.40	2.8	3.2
12		9.7	27	230		<125	2.50		3.2
13		9.8	29	230		<130	2.40		3.2
14		9.4	25	225		<135	2.20	2.4	3.3
15		8.4	26	215		---	1.90	2.4	3.25
16		7.7	24	220		---	----	2.5	3.2
17		6.7	25	220		---	E	2.4	3.2
18		5.3	24	230		---	E	2.4	3.1
19		3.6	23	240		---	E	2.2	3.1
20		3.3	18	260		---	E	2.2	2.9
21		2.6	22	290		---	E	2.2	2.7
22		2.5	17	310		---	E	2.2	2.6
23		2.6	12	340		---	E	2.3	2.6

Time: 15.0°E.
Sweep: 0.33 Mc to 20.0 Mc in 3 minutes.
Occasionally, 1.4 Mc to 17.0 Mc in 6 minutes, automatic operation.

Table 10

Churchill, Canada (58.0° N, 94.2° W) November 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.2	19	300				4.9	
01		4.0	19	(295)				4.0	----
02		3.9	17	(305)				3.9	----
03		3.6	16	(345)				3.2	
04		4.0	14	320		---	----	3.0	
05		3.9	15	(310)				3.8	
06		4.1	14	---				3.2	----
07		4.4	15	(300)		---	----	4.0	----
08		5.0	21	300		---	----	3.2	----
09		5.7	21	290		---	----		3.10
10		6.6	22	205		---	2.90		3.10
11	---	7.2	22	270	---	---	----		3.10
12	---	8.0	22	260	---	---	2.80		3.10
13	---	8.2	24	265	---	---	2.80		3.10
14	---	9.0	24	260	---	130	2.60		3.05
15	---	8.8	24	250	---	120	2.20		3.10
16		8.6	24	250		---	1.95		(3.10)
17		5.5	25	300		---	----	2.3	----
18		5.0	26	300				3.0	----
19		4.6	26	300				3.9	----
20		4.3	27	295				3.6	----
21		4.3	24	300		---	----	4.6	----
22		4.6	20	300		---	----	6.0	
23		4.2	19	(300)		---	----	5.5	

Time: 90.0°W.
Sweep: 1.0 Mc to 17.0 Mc in 16 seconds.

Table 11

De Bilt, Holland (52.1° N, 5.2° E) November 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		(2.9)	28	(330)					(2.65)
01		(2.8)	28	<335					(2.60)
02		(2.6)	27	<335					2.65
03		(2.5)	29	(300)					(2.70)
04		(2.4)	29	<300					(2.85)
05		(2.3)	29	<290					(2.85)
06		(2.6)	27	<300					(2.70)
07		4.6	30	225		---	1.7	2.2	3.15
08	---	6.9	30	210	---	110	2.1	2.2	3.35
09	---	8.4	29	210	---	110	2.5		3.25
10	---	9.5	29	215	---	100	2.7	2.8	3.30
11	(225)	10.4	30	215	---	110	2.9		3.30
12	---	10.4	30	215	---	115	2.8		3.30
13	---	10.0	30	215	---	120	2.0		3.20
14		10.2	30	215		125	2.5		3.30
15		9.1	30	210		130	2.1		3.35
16		8.2	30	200		---	1.6	1.9	3.20
17		7.4	30	215				2.2	3.20
18		5.2	30	210					3.25
19		4.0	29	225					3.10
20		3.2	29	250					2.90
21		3.0	30	<295					2.70
22		2.9	29	<310					2.60
23		(2.0)	27	(320)					2.65

Time: 0.0°.
Sweep: 1.4 Mc to 16.0 Mc in 40 seconds.

Table 12

Adak, Alaska (51.9° N, 176.6° W) November 1960

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		2.7	25	312					2.70
01		2.7	26	310					2.70
02		2.7	23	310					2.75
03		2.8	22	319					2.70
04		2.7	24	(317)				1.7	2.65
05		2.8	23	315				2.6	2.62
06		2.8	26	<310				1.4	2.75
07		4.4	25	246		134	1.85	1.8	3.10
08	---	6.7	29	220	---	113	2.25	2.3	3.38
09	---	8.8	30	224		110	2.50		3.30
10	---	10.55	30	225		110	2.75		3.25
11		11.0	29	225		(115)	2.80		3.30
12		11.15	30	220		113	2.80		3.30
13		11.0	30	220		115	2.75		3.30
14		10.15	30	220		(115)	2.55	2.6	3.30
15		9.75	30	214		(120)	2.25		3.33
16		7.8	30	212		125	----	1.9	3.40
17		6.05	30	212		---	----	1.4	3.30
18		4.2	29	215		---	----		3.10
19		2.8	29	236					3.20
20		2.3	26	255					3.12
21		2.4	25	283					2.92
22		2.5	25	305					2.78
23		2.6	26	<318					2.65

Time: 180.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 13

Winnipeg, Canada (49.9° N, 97.4° W) November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.4	22	290					(2.90)
01		3.2	22	300					2.90
02		3.3	22	300					(2.85)
03		3.2	20	300					(2.90)
04		3.3	22	300					(2.80)
05		3.1	23	300					(2.90)
06		3.2	19	300					(2.80)
07		3.2	22	295					3.00
08		5.0	24	260		<135	2.00		3.20
09		6.3	23	240		120	2.40		3.30
10		7.5	24	240		110	2.80		3.30
11	---	8.9	25	240		110	3.00		3.15
12	---	9.5	25	235		110	3.00		3.10
13	---	10.0	25	240		110	3.00		3.20
14	---	10.2	24	240		120	3.00		3.15
15		10.1	25	240		120	2.60		3.20
16		9.8	25	235		---	2.30		3.20
17		8.9	25	230		---	1.80		3.20
18		7.6	26	230					3.10
19		6.0	25	235					3.10
20		4.8	26	240					3.10
21		4.0	23	255					3.00
22		3.8	25	275					3.00
23		3.3	22	280					2.95

Time: 90.0°W.
Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 14

St. John's, Newfoundland (47.6° N, 52.7° W) November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.0	27	300					2.65
01		3.6	25	300					2.65
02		3.2	25	300					2.65
03		3.2	27	300					2.70
04		3.0	25	295					2.70
05		2.8	25	290					2.70
06		3.6	27	280					2.80
07		5.9	29	230					3.10
08		7.3	20	225		---	---		3.15
09		8.4	28	220		---	---		3.10
10		9.6	27	230		---	---		3.05
11		10.3	28	230		---	---		3.10
12		11.0	28	230		---	---		3.10
13		10.8	28	230		---	---		3.05
14		10.8	27	235		---	---		3.00
15		10.3	27	225					3.00
16		9.6	27	220					3.00
17		8.0	20	215					2.95
18		6.7	23	230					2.85
19		5.3	22	245					2.80
20		5.0	21	280					2.70
21		4.5	20	300					2.70
22		4.6	20	300					2.65
23		4.1	23	300					2.65

Time: 60.0°W.
Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 15

Graz, Austria (47.1° N, 15.5° E) November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(3.3)	23	340					(2.7)
01		(3.4)	28	330					(2.7)
02		(3.3)	23	330					(2.0)
03		>3.2	22	315					(2.8)
04		>3.4	24	205					(3.0)
05		>3.1	21	(260)					(3.0)
06		(3.2)	19	(300)					(2.8)
07		>5.0	27	240					(3.3)
08		>6.8	27	220					(3.4)
09		>8.9	27	220					(3.3)
10		>8.9	27	220					(3.4)
11		>9.0	26	230					
12		>9.0	27	230					
13		>9.0	28	230					
14		>9.0	28	230					
15		>9.0	28	220					
16		8.8	29	210					(3.4)
17		>6.0	28	210					(3.3)
18		>5.6	29	240					3.2
19		>5.5	23	240					(3.3)
20		(3.7)	21	250					(3.0)
21		>3.2	24	(330)					(2.8)
22		>3.2	20	(335)					(2.8)
23		>3.2	17	<350					(2.6)

Time: 15.0°E.
Sweep: 2.8 Mc to 18.0 Mc in 50 seconds.

Table 16

Bottens, Switzerland (46.6° N, 6.7° E) November 1960

Time	h'F2	foF2	Count	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	3.4	27						2.7
01	310	3.4	27						2.8
02	300	3.5	28						2.75
03	300	3.4	28						2.8
04	280	3.3	30						2.8
05	270	3.0	27						2.9
06	270	2.7	25						3.0
07	270	3.4	26						2.9
08	230	5.9	29			130	1.9		3.3
09	230	8.0	28			120	2.3		3.4
10	230	8.9	28			110	2.7		3.5
11	230	9.1	28			110	2.8		3.45
12	240	9.3	25			100	3.0		3.5
13	230	9.3	25			110	3.0		3.4
14	240	9.2	25			115	2.9		3.4
15	240	9.2	24			120	2.6		3.5
16	230	9.0	26			120	2.2		3.45
17	220	8.0	29			130	1.8		3.4
18	220	6.8	26						3.2
19	240	5.9	27						3.2
20	230	4.7	28						3.2
21	240	3.5	26						3.0
22	290	3.3	25						2.9
23	300	3.4	20						2.8

Time: 15.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 17

Ottawa, Canada (45.4° N, 75.9° W) November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.0	24	280					----
01		3.6	26	290					----
02		3.4	26	300					----
03		3.4	26	300					----
04		3.4	27	300					----
05		3.2	27	295					----
06		3.2	27	290					----
07		4.4	29	265		---	1.8		(3.00)
08		6.7	20	240		110	2.2		3.30
09	---	8.0	28	240		110	2.7		3.20
10	(280)	9.2	20	225	---	110	3.0		3.15
11	(280)	10.1	20	230	---	115	3.0		3.20
12	250	10.6	28	225	---	110	3.0		3.10
13	(250)	10.2	28	230	---	110	3.0		3.10
14	---	10.8	27	240	---	110	2.9		3.10
15	---	10.4	26	240		120	2.6		3.15
16		10.0	26	230		120	2.0		(3.15)
17		9.0	27	220		---	---		(3.15)
18		7.5	27	230					(3.05)
19		6.1	27	250					(3.10)
20		5.1	28	250					(3.10)
21		4.4	25	270					(3.00)
22		4.2	22	290					(2.90)
23		4.2	21	290					----

Time: 75.0°W.
Sweep: 1.0 Mc to 20.0 Mc in 16 seconds.

Table 18

Wakkanai, Japan (45.4° N, 141.7° E) November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.7	29	320					2.70
01		3.6	28	330					2.70
02		3.6	20	320			----		2.70
03		3.5	28	300			----		2.70
04		3.5	28	290			----		2.80
05		3.5	27	285					2.80
06		4.1	29	260					2.90
07		6.8	30	235			2.05		3.25
08		9.6	28	230			2.50	2.8	3.20
09	---	10.5	26	230	---		2.75	3.4	3.20
10	---	11.6	26	230	---		3.00		3.15
11	---	12.3	26	235			3.05	3.2	3.15
12		11.8	28	235			3.00	3.1	3.20
13		10.7	27	235			2.90		3.15
14		10.3	29	235			2.70	2.8	3.15
15		9.8	30	230			2.30		3.20
16		8.6	30	220					3.20
17		6.5	30	220					3.10
18		5.8	30	245					3.05
19		4.8	30	250					3.05
20		4.0	27	260					3.00
21		3.5	28	300					2.75
22		3.6	28	310			----		2.75
23		3.5	29	310					2.75

Time: 135.0°E.
Sweep: 1.0 Mc to 20.7 Mc in 1 minute.

Table 19

Rome, Italy (41.8° N, 12.5° E) November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.6	28	310					2.60
01		3.8	30	300					2.65
02		3.8	29	310					2.65
03		3.7	30	300					2.70
04	---	3.7	29	200	---				2.80
05	---	(3.3)	26	250	---				3.00
06	---	(3.1)	29	280	---				(2.85)
07		(5.5)	30	240		160	1.8		(2.95)
08		(8.5)	25	240		120	2.3		(3.25)
09		(9.9)	23	230		110	2.7		3.15
10		(11.2)	20	240		110	3.0		(3.15)
11		(11.8)	24	230		110	3.1		(3.05)
12		(12.0)	24	230		110	3.2		(3.10)
13		11.2	27	240		110	3.2		3.05
14		10.9	22	240		110	3.0		3.05
15		(11.0)	23	240		120	2.7		(3.10)
16		(10.4)	23	230		130	2.1		(3.15)
17		(8.5)	17	220		---	---		(3.10)
18		6.0	24	230					2.95
19		(5.8)	26	240					(3.00)
20		(4.9)	23	240					(3.05)
21		3.7	26	250					2.80
22		3.5	27	300					2.70
23		3.6	27	300					2.65

Time: 15.0°E.
Sweep: 1.4 Mc to 15.0 Mc in 5 minutes, automatic operation.

Table 20

Boulder, Colorado (40.0° N, 105.3° W) November 1960*

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.2	14						2.75
01		3.4	15						2.80
02		3.5	15						2.75
03		3.5	15						2.80
04		3.45	16						2.80
05		3.4	15						2.78
06		(3.6)	15						2.80
07		6.2	16						3.30
08		8.6	16						3.40
09		10.15	16						3.32
10		11.1	16						3.25
11		11.7	16						3.15
12		11.8	17						3.10
13		12.0	16						3.10
14		12.0	13						3.05
15		11.5	14						3.10
16		11.0	16						3.18
17		9.8	16						3.22
18		7.7	14						3.10
19		6.15	14						3.25
20		4.6	13						3.25
21		3.8	13						3.10
22		3.3	13						2.90
23		3.2	13						2.82

Time: 105.0°W.
Sweep: 0.25 Mc to 20.0 Mc in 27 seconds.
*Data through 0100 on 21st.

Table 21

Akita, Japan (39.7° N, 140.1° E) November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.8	28	300				(2.1)	2.70
01		3.6	28	315				2.0	2.70
02		3.6	28	305				(2.1)	2.70
03		3.6	26	300				2.2	2.75
04		3.5	27	290				(2.1)	2.70
05		3.5	28	290					2.70
06		4.5	28	260					2.95
07		8.1	29	245			2.05		3.40
08		10.2	20	240			2.70		3.35
09	---	11.1	28	240	---		3.05	3.4	3.25
10	(245)	12.1	28	240			3.25	3.5	3.25
11	(245)	12.5	28	245			3.30	3.6	3.20
12	(245)	11.8	20	240			3.30	3.4	3.20
13	---	11.6	28	245			3.20	3.2	3.15
14		11.4	27	245			2.90		3.20
15		10.8	27	245			2.55	2.8	3.25
16		9.5	28	225			2.00	2.3	3.30
17		7.1	29	215				(2.3)	3.20
18		6.0	29	240				(2.4)	3.15
19		5.4	20	245				(2.1)	3.15
20		4.6	27	245				2.2	3.05
21		3.8	27	255				2.2	2.80
22		3.6	28	290				2.1	2.70
23		3.6	28	300				1.8	2.70

Time: 135.0°E.
Sweep: 1.6 Mc to 20.0 Mc in 20 seconds.

Table 22

Washington, D. C. (38.7° N, 77.1° W) November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.9	29	200					2.85
01		3.9	28	280					2.82
02		3.85	28	290					2.82
03		3.6	28	275					2.90
04		3.7	28	200					2.98
05		3.4	28	280					2.88
06		(3.3)	28	280					(2.88)
07		5.3	28	245		(124)	1.80		3.20
08	---	8.0	28	235		115	2.40		3.30
09	240	9.0	30	230	---	111	2.80		3.25
10	240	9.7	29	220		113	3.00		3.15
11	(260)	11.0	29	220		114	3.15		3.10
12	(255)	11.0	30	225	---	119	3.20		3.08
13	250	11.25	30	230	---	119	3.20		3.05
14	245	11.0	30	230	---	119	3.00		3.02
15	240	10.8	30	235		119	2.75		3.10
16	---	10.7	30	235		122	2.25		3.15
17		9.5	30	220					3.10
18		7.75	30	230					3.05
19		6.65	30	230					3.05
20		5.55	28	250					3.00
21		4.8	30	260					2.90
22		4.7	29	270					2.38
23		3.85	20	270					2.08

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 23

Tokyo, Japan (35.7° N, 139.5° E) November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.6	29	305					2.70
01		3.5	29	310					2.70
02		3.6	30	310				1.6	2.70
03		3.5	29	290				1.4	2.75
04		3.2	29	290				1.3	2.70
05		3.2	29	305					2.65
06		4.6	30	255			----		2.90
07		(8.2)	29	230			(2.30)		(3.20)
08	---	10.8	29	225			2.60	2.9	3.30
09	(255)	11.6	30	230			3.05	3.2	3.20
10	250	12.8	30	230			3.30	3.4	3.15
11	250	12.9	30	225			3.40	3.6	3.15
12	250	12.2	29	230			3.30	3.6	3.10
13	(255)	12.3	30	230			3.20	3.2	3.10
14	---	11.6	30	230			3.00	3.3	3.10
15		11.0	30	230			2.65	3.2	3.20
16		9.8	30	220			(2.20)	2.6	3.20
17		8.2	30	210			----	(2.4)	3.15
18		6.2	30	250				2.4	3.10
19		5.2	29	250					3.10
20		5.0	29	250				2.2	2.95
21		4.2	29	260			----	2.1	2.90
22		3.8	30	300					2.75
23		3.6	29	305				2.1	2.70

Time: 135.0°E.
Sweep: 1.0 Mc to 20.0 Mc in 20 seconds.

Table 24

White Sands, New Mexico (32.3° N, 106.5° W) November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.6	27	<290		---	----		2.70
01		3.5	27	<300		---	----		2.70
02		3.7	28	<300		---	----		2.70
03		3.6	28	<300		---	----		2.70
04		3.65	28	(285)					2.70
05		3.6	28	<300					2.70
06		3.9	29	<290					2.75
07		6.8	29	250		<133	2.10		3.15
08	---	9.4	30	240	---	115	2.60		3.30
09	---	10.6	28	234	---	110	2.98	3.0	3.20
10	(255)	11.5	28	225	---	111	3.25		3.10
11	---	11.8	29	225	---	115	3.35		3.05
12	---	11.55	30	224	---	117	3.40		3.00
13	---	11.8	30	230	---	117	3.40	3.4	2.98
14	---	11.8	30	240	---	115	3.25	3.2	3.00
15	---	11.25	30	240	---	117	2.90		3.00
16		10.3	30	236		(122)	2.52	2.6	3.10
17		9.6	30	225				2.2	3.15
18		7.3	30	220				1.8	3.10
19		5.45	30	235					3.10
20		4.5	29	245				2.0	3.15
21		3.9	28	(260)				2.0	3.10
22		3.7	29	(285)				2.9	2.80
23		3.55	28	<295				2.6	2.75

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 25

Yamagawa, Japan (31.2° N, 130.6° E) November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.1	28	300					2.75
01		4.0	27	295					2.80
02		3.6	28	295					2.80
03		3.5	28	270					2.90
04		3.2	27	265			----		2.95
05		3.1	26	330			----		2.60
06		3.5	27	300					2.75
07		6.8	27	245			1.95		3.25
08		9.5	29	235			2.60	2.1	3.35
09		11.1	29	240			3.00	3.0	3.25
10		12.3	20	230			3.20	3.4	3.20
11		13.0	26	230			3.40	3.6	3.15
12		12.7	27	230			3.50	3.7	3.05
13		13.8	24	240			3.40	3.8	3.05
14		13.0	25	240			3.30	3.9	3.10
15		13.1	27	240			3.10	3.5	3.15
16		11.9	29	235			2.65	3.1	3.20
17		10.8	28	225			----	3.0	3.25
18		(8.7)	29	220				3.1	(3.15)
19		7.4	20	235				2.4	3.00
20		(7.1)	25	240					(3.00)
21		6.5	29	235					3.00
22		5.5	28	240					2.90
23		4.1	27	285					2.70

Time: 135.0°E.
Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 26

El Cerillo, Mexico (19.3° N, 99.5° W) November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.8	26	270					3.05
01		3.6	25	260					3.10
02		3.4	26	265					3.00
03		3.2	26	280					2.90
04		3.1	26	290					2.70
05		3.1	26	305					2.80
06		3.2	26	305					2.80
07		6.0	26	250		155	1.90		3.30
08		9.6	25	230		109	2.50		3.40
09		11.2	25	230		105	3.00		3.30
10		12.0	23	220		107	3.35		3.20
11		(12.0)	22	220		103	3.50		(3.20)
12		(11.5)	22	210		103	3.65		(3.10)
13		(11.4)	23	220		104	3.65	3.9	(3.10)
14		(11.7)	20	230		103	3.60	3.7	(3.00)
15		(12.0)	21	230		103	3.35	3.9	(3.05)
16		11.2	25	230		103	3.00	3.8	3.20
17		10.8	25	230		103	2.30	4.0	3.30
18		9.6	26	215				3.0	3.30
19		7.8	26	210				2.8	3.30
20		5.4	24	220				1.9	3.20
21		4.6	26	250				2.8	3.20
22		4.3	26	240				1.8	3.15
23		3.8	25	260					3.15

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 18 seconds.

Table 27

Talara, Peru (4.6° S, 81.3° W) November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		11.0	14	240				2.7	3.10
01		9.3	14	240				3.2	3.20
02		8.1	19	240				2.8	3.05
03		6.95	20	250				2.3	3.12
04		6.1	23	245				2.0	3.20
05		5.2	25	240				3.0	3.25
06		5.8	27	270		---	----	4.0	3.05
07		9.7	29	250		<121	2.52	4.2	3.10
08		12.0	30	240		119	3.25	4.6	2.90
09		12.85	26	230		119	3.50	3.8	2.90
10	---	13.25	26	220		117	3.80	4.0	2.60
11	---	13.3	27	<215		115	3.90		2.45
12	---	13.35	28	(210)		117	4.00		2.40
13	---	13.4	28	(210)	---	115	3.95		2.40
14	---	13.4	28	(215)		115	3.78	4.2	2.35
15	---	13.7	29	(220)		113	3.55	6.0	2.45
16	---	13.2	29	(230)		113	3.20	6.9	2.45
17		13.3	30	(255)		119	2.72	4.5	2.50
18		13.8	30	(265)		<153	2.02	3.2	2.55
19		13.65	30	285				3.4	2.70
20		(13.0)	28	315				2.1	(2.58)
21		(12.5)	17	280				2.3	(2.75)
22		(12.55)	12	255				3.3	(2.92)
23		11.3	12	245				3.0	(2.95)

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 28

Huancayo, Peru (12.0° S, 75.3° W) November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(9.65)	2	300					----
01		(10.0)	2	270					----
02		(7.85)	6	260					(3.18)
03		6.5	11	240					3.25
04		6.2	15	230					3.30
05		5.6	21	235					3.22
06		8.0	30	250		129	2.15		3.18
07		10.8	30	235		119	2.85		3.00
08		12.0	30	225		117	(3.40)	7.0	2.85
09	---	12.7	28	220		---	(3.75)	7.2	2.48
10	---	12.55	28	210		---	(4.00)	7.4	2.40
11	---	12.2	29	210	---	---	(4.05)	7.4	2.35
12	---	12.2	29	205	---	---	(4.00)	7.3	2.30
13		12.05	30	210	---	(115)	(4.00)	7.0	2.35
14		12.95	30	205		117	(3.80)	7.2	2.35
15		12.9	30	215		113	(3.55)	7.0	2.35
16		13.05	30	230		119	(3.20)	7.0	2.35
17		12.05	30	250		119	(2.60)	5.8	2.30
18		12.25	30	270		<153	1.70	4.0	2.35
19		11.1	29	330					2.25
20		10.2	18	(340)					2.20
21		9.4	11	340					2.30
22		(10.6)	5	350					(2.50)
23		(10.95)	4	340					----

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 29

Townsville, Australia (19.3° S, 146.7° E) November 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>7.5	3	250				2.8	
01		>7.0	3	250				3.2	
02		>6.5	3	300				3.3	
03		>7.0	3	290				3.1	----
04		>6.6	8	285				2.5	----
05		>6.5	5	280					----
06		>6.4	6	250			2.20		
07		>7.0	7	240	---		2.85	3.4	----
08		>8.4	13	230	---		3.20	3.8	(3.05)
09		10.9	10	(220)	---		3.50	4.2	(3.00)
10		>10.7	12	(220)	5.1		3.55	4.6	2.75
11		>11.0	15	(225)	5.6		3.80	5.6	2.80
12		>11.0	15	(230)	5.4		>3.80	4.8	2.80
13		(11.5)	15	(220)	5.2		3.85	4.4	2.05
14		>11.0	13	<230	5.1		3.80		(2.75)
15		>11.0	14	(225)	---		3.50		2.85
16		>10.0	10	245	---		3.30	4.0	----
17		>9.0	9	250			2.90	3.4	----
18		>6.5	2	290			2.05	4.0	----
19		---	0	295				3.8	
20		---	0	310				3.4	
21		---	0	300				3.1	
22		>7.0	1	295				3.6	
23		>8.0	2	275				3.4	

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 30

Talara, Peru (4.6° S, 81.3° W) September 1960

Time	h'F2	foF2	Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>11.1	28	215					3.08
01		9.35	28	225					(3.10)
02		7.8	23	230					3.15
03		6.4	26	230					3.20
04		5.5	28	235					3.20
05		4.0	22	265					2.95
06		4.3	24	275					2.68
07		8.0	30	250		125	2.50		3.00
08		10.4	29	230		115	3.20		2.80
09		11.6	29	220		115	3.65		2.50
10		12.0	29	210		113	3.90		2.32
11	---	12.5	29	200	---	113	4.00		2.25
12	---	12.4	29	200	---	111	4.05		2.20
13	---	12.3	29	205	---	111	4.00		2.20
14	---	12.2	30	205	---	111	3.85		2.20
15	---	12.0	30	205	---	111	3.70	4.2	2.20
16	---	11.8	29	220	---	111	3.40	3.5	2.20
17		11.5	29	240		115	2.92		2.22
18		11.4	29	270		(145)	2.10	2.1	(2.30)
19		>11.25	30	330					(2.25)
20		>11.2	23	365					(2.38)
21		>11.4	20	275					(2.68)
22		>11.6	24	230				1.8	(2.85)
23		>11.65	26	220					3.05

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 31

Bunia, Belgian Congo (1.5° N, 30.2° E) — December 1959

Time	h'F2	foF2—Count		h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	9.3	19					1.7	2.67
01	250	9.1	25					1.6	2.72
02	240	8.0	20						<2.84
03	230	6.6	23					1.9	2.92
04	250	6.3	22	---	---	---	---	2.2	<2.86
05	250	8.6	27	250	---	120	2.7	3.1	2.86
06	---	10.4	28	240	---	110	3.2		2.55
07	---	11.1	28	230	---	110	3.6		2.43
08	---	11.0	28	230	---	110	3.9		2.26
09	---	>11.1	22	230	---	110	4.0		2.16
10	---	12.0	21	220	---	110	4.0		2.17
11	(380)	12.5	24	220	---	110	4.0		2.26
12	---	12.4	23	240	---	110	3.7	4.0	2.16
13	(540)	(12.0)	22	230	---	110	3.5		<2.12
14	---	12.5	14	250	---	115	3.1	4.0	<2.16
15	---	12.6	10	260	---	120	2.5	3.0	2.16
16	---	>11.4	6	300	---	---	---	3.0	<2.15
17	380	(11.1)	7					3.0	(2.14)
18	380	>12.2	7					2.7	(2.24)
19	310	(12.7)	11					2.1	2.38
20	250	12.5	11					2.0	<2.61
21	240	10.4	12						2.47
22	260	10.0	15						2.50
23	260	9.6	18					1.8	2.53

Time: 0.0°.
Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 32

Leopoldville, Belgian Congo (4.4° S, 15.2° E) — December 1959

Time	h'F2	foF2—Count		h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	265	(8.7)	8						(2.50)
01	270	8.2	14						(2.56)
02	260	8.0	17						2.50
03	250	7.2	21						2.68
04	240	6.4	24						2.80
05	260	6.9	27	---	---	130	1.9	2.6	2.80
06	(255)	8.6	20	245	---	120	2.9	3.3	2.77
07	---	10.0	20	235	---	110	3.4		2.60
08	(300)	10.8	23	235	---	110	3.7		2.39
09	(325)	11.4	11	230	---	110	3.9		2.27
10	---	----	0	240	---	110	---		
11	---	(12.1)	1	---	---	110	---		----
12	---	13.1	17	250	---	110	---		(2.22)
13	380	13.0	20	240	---	110	---		2.24
14	430	13.0	28	240	---	115	3.6	3.7	2.20
15	400	13.6	22	245	---	115	3.2	3.6	2.23
16	---	13.6	16	260	---	120	2.6	3.2	2.30
17	290	13.0	17	---	---			2.8	2.37
18	325	13.6	13					2.6	<2.24
19	320	(13.6)	5					2.0	(2.38)
20	275	>15.0	14						<2.55
21	240	13.9	16						2.72
22	225	12.7	13						2.63
23	250	11.8	15						2.54

Time: 0.0°.
Sweep: 1.0 to 20.0 Mc in 7 seconds.

Table 33

Elisabethville, Belgian Congo (11.6° S, 27.5° E) — December 1959

Time	h'F2	foF2—Count		h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	275	8.2	20						2.58
01	270	7.6	17						2.57
02	265	7.0	27						2.59
03	260	6.0	28					1.5	2.56
04	270	6.5	27	---	---	140	1.7	2.5	2.77
05	(280)	8.6	21	250	---	120	2.9	3.0	2.74
06	285	9.0	30	240	---	115	3.4	3.5	2.62
07	320	10.0	30	235	---	110	3.7	3.6	2.50
08	330	10.7	30	235	---	110	3.9		2.40
09	350	11.0	31	230	5.2	110	4.0		2.34
10	385	11.1	30	230	5.4	110	4.0		2.26
11	380	11.8	30	230	5.8	110	4.0	4.0	2.30
12	360	11.8	31	230	5.2	110	4.0	4.1	2.34
13	360	11.6	28	230	5.0	110	3.7	4.0	2.31
14	380	11.2	30	240	5.5	115	3.4	4.0	2.28
15	355	11.1	29	250	---	120	3.0	3.3	2.31
16	310	11.4	24	280	---	130	2.2	3.0	2.46
17	280	11.0	18					2.9	2.50
18	290	11.0	13					2.5	<2.46
19	280	11.1	22					2.0	2.52
20	270	11.3	25					1.9	2.60
21	250	11.0	26					1.4	2.65
22	250	9.1	27						2.60
23	260	8.8	20						2.56

Time: 0.0°.
Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 34

Inverness, Scotland (57.4° N, 4.2° W) — November 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.4	28	325				<1.2	2.50
01		>3.1	30	315				<1.1	2.50
02		2.9	29	310				<1.2	2.50
03		3.0	30	310				<1.2	2.50
04		3.0	29	300				<1.1	2.50
05		3.1	30	300				<1.3	2.60
06		3.0	30	300				<1.6	2.70
07		3.4	30	270			----	<1.6	2.70
08		5.4	30	250		120	1.80		2.90
09		7.2	30	250		120	2.20		3.10
10		8.8	30	250		120	2.50		3.10
11	---	10.7	29	250		115	2.70		3.10
12		11.2	30	250		120	2.75		3.10
13		11.2	30	245		120	2.65		3.05
14		11.4	29	240		120	2.50		3.10
15		10.6	29	240		120	2.20		3.10
16		>8.3	28	230		105	1.80		3.10
17		8.2	29	220				<1.6	3.05
18		6.6	30	240				<1.6	3.00
19		4.9	29	245				<1.6	2.85
20		(4.2)	28	260				<1.6	2.70
21		(3.8)	28	270				<1.6	2.60
22		>3.4	30	300				<1.6	2.55
23		3.6	30	300				<1.6	2.55

Time: 0.0°.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 35

Lindau/Harz, Germany (51.6° N, 10.1° E) — November 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		4.22	30	312					2.54
01		4.18	29	306					2.57
02		3.72	29	299					2.55
03		3.52	28	296					2.58
04		3.26	30	290					2.64
05		3.18	30	278					2.68
06		2.88	28	262					2.73
07		3.75	30	263		---	E		2.82
08		6.70	29	228		---	1.90	2.6	3.18
09		9.30	27	227		---	2.34	3.5	3.22
10		10.98	26	222		108	2.65	4.0	3.18
11		12.09	26	227		107	2.87	3.9	3.14
12		12.16	28	221		104	2.92	3.9	3.12
13		11.85	29	226		105	2.91	3.8	3.04
14		11.09	30	230		---	2.78	3.8	3.05
15		12.00	27	228		---	2.44	3.6	3.13
16		11.02	29	220		---	1.88	3.5	3.12
17		9.44	29	213		---	E	2.8	3.15
18		7.67	29	222					3.06
19		6.35	30	229					3.01
20		5.22	30	234					2.94
21		4.50	30	262					2.68
22		4.38	30	293					2.62
23		4.18	30	303					2.54

Time: 15.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 36

Dourbes, Belgium (50.1° N, 4.6° E) — November 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.9	29	<300				<1.3	2.65
01		3.9	29	290				<1.1	2.65
02		3.7	29	295				<1.1	2.70
03		3.4	29	280				<1.1	2.75
04		3.2	29	265				<1.2	2.80
05		3.0	29	(270)				<1.4	2.80
06		3.0	29	<270				<1.5	2.85
07		5.5	29	230		(119)	<1.65		3.10
08		8.4	29	225		<114	2.20		3.25
09		10.3	28	220		(111)	2.60	<2.8	3.25
10		11.2	29	220		(111)	2.75	3.0	3.20
11		11.7	29	220		(111)	2.90	3.0	3.25
12		11.4	29	220		(113)	2.95		3.15
13		11.5	29	230		(115)	2.85		3.15
14		11.5	27	230		<119	2.60		3.15
15		11.0	29	220		<124	2.20		3.20
16		9.8	29	215		---	<1.60	1.9	3.20
17		8.0	29	210				<1.6	3.20
18		6.6	26	220				<1.6	3.15
19		5.4	29	230				<1.6	3.05
20		4.6	28	245				<1.6	2.85
21		4.4	27	275				<1.6	2.70
22		4.2	28	295				<1.6	2.65
23		4.1	28	310				<1.6	2.60

Time: 0.0°.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 37

Garchy, France (47.3° N, 3.1° E) November 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.7	19	<310					
01		4.4	17	<310					
02		(4.3)	16	<310					
03		4.2	16	<300					
04		(4.1)	14	<280					
05		(3.6)	14	<275					
06		(3.6)	15	<280					
07		(6.3)	2	---					
08		9.0	20	225		120	2.50		
09		11.0	21	225		115	2.80		
10		12.0	23	225		110	3.00	3.4	
11		>12.3	24	230		105	3.10		
12		12.0	23	225		110	3.15		
13		11.9	25	230		110	3.15		
14		>12.0	23	235		110	2.85		
15		11.8	22	225		120	2.55		
16		(10.5)	8	(225)					
17		8.8	17	<225					
18		>7.0	24	<240					
19		(6.0)	24	<250					
20		5.3	23	<270					
21		(5.0)	22	<300					
22		5.0	21	<300					
23		4.9	21	<305					

Time: 0.0°.

Table 38

Ibadan, Nigeria (7.4° N, 3.9° E) November 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>9.5	27	240					(2.90)
01		(9.6)	27	240					(3.05)
02		8.9	27	245					3.05
03		8.5	27	240					3.10
04		7.9	26	230					3.20
05		5.9	27	220					3.25
06		7.6	27	250			2.00		3.10
07		10.4	25	245			2.90		3.05
08		>11.8	28	235			3.40	6.5	2.80
09		12.6	28	230			3.75	7.0	<2.50
10		(12.0)	30	220			(3.95)	9.0	(2.35)
11		11.6	30	210			(4.05)	9.0	2.35
12		11.4	30	210			4.05	9.0	2.30
13		>11.9	30	205			3.95	7.0	2.30
14		(12.2)	29	210			3.75	7.0	(2.30)
15		12.2	30	225			3.40	7.0	(2.30)
16		>11.6	30	245			2.90	6.8	(2.25)
17		>11.5	29	275			2.10		(2.30)
18		>10.4	30	350			(1.10)		(2.15)
19		9.2	30	390					(2.10)
20		9.4	28	355					(2.25)
21		>9.4	26	295					(2.50)
22		>9.4	29	260					(2.50)
23		10.0	29	245					(2.75)

Time: 0.0°.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 39

Sao Paulo, Brazil (23.5° S, 46.5° W) November 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>14.0	16	290					2.80
01		>14.0	16	200					2.95
02		12.9	16	265					3.05
03		11.7	15	250					3.00
04		10.7	18	235					3.00
05		8.8	18	230					2.90
06		8.7	21	235			---		3.00
07		9.3	21	230			---		2.80
08		10.3	21	230			---		2.60
09	---	11.0	20	225	---		---		2.40
10	---	11.6	20	220	---		---		2.40
11	---	12.6	20	---	---		---		2.45
12	(400)	>13.0	19	(240)	---		---		2.50
13	(390)	14.0	17	---	---		---		2.50
14	---	>14.0	19	<240	---		---		2.60
15	(370)	>14.0	19	230	---		---		(2.70)
16	(385)	14.5	20	240	---		---		2.70
17	---	14.2	19	245	---		---	3.5	2.60
18		>14.0	21	270					2.65
19		(14.2)	20	325					(2.60)
20		>14.0	13	355					(2.65)
21		(14.5)	13	300					(2.80)
22		(14.3)	13	300					(2.80)
23		>14.0	13	295					(2.75)

Time: 45.0°W.
Sweep: 1.75 Mc to 20.0 Mc in 2 minutes 30 seconds.

Table 40

Johannesburg, Union of S. Africa (26.1° S, 28.1° E) November 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.0	24	---				1.5	2.75
01		6.7	24	---				<1.4	2.80
02		6.0	22	---				1.8	2.80
03		5.5	22	---				1.9	2.70
04		5.4	23	290				2.0	2.60
05		5.7	21	285			1.4		2.80
06	---	7.6	19	245	---		2.4	2.7	3.00
07	---	8.8	19	230	---		3.1	3.3	2.90
08	---	10.3	19	220	---		3.5		2.85
09	(330)	10.8	21	220	---		3.8	4.0	2.80
10	(340)	11.7	21	210	---		4.0	4.2	2.70
11	325	11.7	21	210	5.6		4.1	4.2	(2.65)
12	350	12.2	22	215	5.9		4.1	4.2	2.65
13	(350)	12.6	22	220	5.9		4.1	4.3	2.65
14	(355)	12.4	22	225	---		4.0	4.1	2.65
15	(340)	11.9	21	225	---		3.8	4.0	2.70
16	---	11.0	21	235	---		3.5	3.7	2.70
17		11.7	20	240			2.9	3.2	2.80
18		11.6	20	250			2.2	2.2	2.85
19		(11.5)	19	240				1.7	2.90
20		(9.7)	19	235				1.6	(2.90)
21		8.9	21	235				<1.6	2.80
22		7.8	21	(245)				<1.4	2.80
23		7.1	23	(265)				<1.5	2.70

Time: 30.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 41

Capetown, Union of S. Africa (34.1° S, 18.3° E) November 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.7	30	---				<1.6	2.65
01		5.4	30	---				<1.6	2.60
02		5.2	30	---				<1.6	2.65
03		5.0	30	---				<1.5	2.60
04		4.9	30	---				<1.5	2.60
05		4.6	30	(305)				<1.5	2.60
06		6.1	30	265			2.1		2.85
07	---	7.7	30	250	---		2.8		2.90
08	---	8.9	29	240	---		3.2		2.80
09	(400)	10.0	20	240	---		3.6		2.65
10	355	10.6	28	230	5.5		---		2.65
11	365	11.0	28	(225)	5.8		---		2.60
12	370	11.5	28	---	5.9		---	4.6	2.60
13	365	12.0	28	---	6.1		---	(4.7)	2.60
14	350	12.0	20	---	6.1		---	(4.6)	2.60
15	360	11.8	28	(220)	5.7		---		2.60
16	360	11.6	28	245	5.5		3.6		2.65
17	(325)	11.4	29	245	---		3.2		2.70
18	---	10.8	29	250	---		2.7		2.80
19		10.2	28	250			2.0		2.85
20		9.3	29	245				<1.6	2.90
21		8.0	30	230				<1.6	2.90
22		6.7	30	(230)				<1.6	2.80
23		6.0	30	---				<1.6	2.70

Time: 30.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 7 seconds.

Table 42

Buenos Aires, Argentina (34.5° S, 58.5° W) November 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.9	29	320					2.55
01		10.4	28	300					2.65
02		10.0	28	270				2.9	2.65
03		9.3	25	275				2.4	2.60
04		8.8	27	270					2.55
05		9.1	27	245		161	2.05	2.4	2.70
06		9.4	29	240		109	2.70		2.75
07		9.8	28	230		107	----	3.4	2.60
08	---	(10.2)	28	230		105	----		2.55
09	---	(11.3)	26	225		105	----		2.50
10	(340)	>12.0	29	225	---	109	----		2.55
11	370	13.0	27	225	---	---	----		2.60
12	360	13.7	29	(255)	---	---	----		2.65
13	360	14.0	29	(250)	---	109	----		2.65
14	345	14.2	30	240		105	----		2.70
15	(330)	14.0	27	235		109	----		2.70
16	320	13.0	26	240		109	----		2.70
17	---	13.2	29	250		109	----	3.3	2.75
18		13.4	28	270		---	2.20		2.75
19		13.0	29	290					2.70
20		12.0	30	300					2.60
21		11.6	29	320					2.45
22		11.3	29	330					2.45
23		>11.0	28	330					2.50

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 43

Canberra, Australia (35.3° S, 149.0° E) November 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>7.0	29	300					(2.60)
01		(6.8)	29	290					(2.70)
02		>6.5	28	290					(2.70)
03		>6.0	29	295					2.60
04		5.8	29	290					2.55
05	---	5.6	29	295	---		1.80		2.80
06	---	6.2	29	250	---		2.60	2.7	2.90
07	(350)	7.0	28	240	4.7		3.05	3.3	2.80
08	380	7.5	28	230	5.1		3.50	3.8	2.80
09	400	7.8	26	225	5.6		3.70	4.0	2.70
10	360	(8.4)	24	220	5.8		3.80	4.2	2.70
11	390	>8.5	23	215	(6.0)		3.95		2.75
12	365	>8.6	20	215	(6.0)		4.00		(2.70)
13	375	>8.5	22	220	5.7		3.90		(2.75)
14	360	>8.5	25	220	5.9		3.85	4.1	2.65
15	370	>8.5	26	235	(5.6)		3.65		2.70
16	(365)	8.5	27	240	(5.1)		3.50	3.5	2.70
17		8.4	27	250	---		3.00	3.3	2.80
18		(8.0)	28	255			2.25	2.8	(2.85)
19		>7.9	29	260			<1.60	1.9	(2.75)
20		>7.6	20	<270					(2.70)
21		>7.3	29	<290				1.0	----
22		>7.2	29	300					(2.60)
23		>7.0	28	300					(2.60)

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 44

Port Lockroy (64.8° S, 63.5° W) November 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.2	22	310			----		2.50
01		10.2	24	330			(1.30)		2.50
02		10.1	20	325			1.40		2.50
03		9.8	26	310	---		1.70		2.50
04		9.8	27	280	---		2.05		2.50
05		9.4	29	260	3.7		2.45		2.60
06		9.6	27	250	4.1		2.80		2.50
07		9.2	20	250	4.3		(3.00)		2.65
08		8.8	28	240	4.4		3.30		2.70
09		8.0	26	235	4.7		3.40		2.70
10		8.2	28	230	4.9		3.60		2.75
11		7.8	30	230	5.1		3.60		2.80
12		8.0	30	230	5.0		3.70		2.85
13		8.0	29	225	---		3.65		2.90
14		8.1	29	230	---		3.60		2.95
15		7.9	27	235	---		3.45		2.95
16		8.1	28	240			3.20		2.90
17		8.0	29	240			3.00		2.90
18		8.0	28	250			2.75		2.90
19		8.3	29	260			2.45		2.80
20		8.7	25	275			2.10		2.75
21		9.0	24	290			1.75		2.60
22		(9.6)	25	300			1.50		2.55
23		10.0	22	305			1.20		2.50

Time: 60.0°W.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 45

Johannesburg, Union of S. Africa (26.1° S, 28.1° E) October 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.8	29	(250)				1.4	2.85
01		6.1	29	---				2.0	2.80
02		5.7	29	---				1.8	2.80
03		5.4	29	270				1.8	2.80
04		4.9	29	255				2.0	2.80
05		4.8	28	260				1.8	2.85
06		7.2	28	240			2.1	2.2	3.20
07	---	9.6	28	230			2.9	3.3	3.15
08	(245)	11.2	28	225			3.4	3.8	3.05
09	(255)	11.7	28	215			3.7	3.9	2.90
10	265	12.2	28	210	---		3.9	4.2	2.85
11	(295)	12.6	28	205	---		4.0	4.4	2.80
12	305	12.9	28	205	---		4.0	4.4	2.75
13	(305)	13.0	28	210	---		4.0	4.2	2.70
14	---	12.9	28	220	---		3.9	4.2	2.65
15	---	12.7	28	220	---		3.7	3.9	2.70
16		12.4	28	230			3.3	3.7	2.75
17		12.4	29	245			2.8	3.3	2.85
18		12.1	29	250			1.9	2.2	2.90
19		11.2	29	230				2.0	2.95
20		(10.2)	29	225				1.6	(2.95)
21		9.0	29	230				<1.6	2.95
22		8.0	28	235				<1.5	2.90
23		7.5	29	250				<1.4	2.90

Time: 30.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 46

Mawson (67.6° S, 62.9° E) October 1959

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(6.0)	7	(260)					(3.00)
01		(6.5)	8	(240)					(3.00)
02		(7.5)	7	(400)					(2.70)
03		7.2	10	395					2.60
04		(8.0)	8	(410)					(2.55)
05		8.9	10	395					2.55
06		9.0	14	370					2.65
07		9.2	14	350					2.70
08		9.2	16	390					2.55
09		9.2	20	350					2.60
10		9.0	21	340					2.60
11		9.0	21	300					2.70
12		8.9	16	235					2.95
13		7.8	19	225					3.00
14		7.0	17	220					3.10
15		7.0	15	235					3.00
16		(7.0)	5	(250)					(3.10)
17		(6.0)	3	---					----
18		---	0	---					
19		(5.5)	4	---					----
20		(5.5)	6	(260)					(3.00)
21		(6.0)	7	(250)					(2.90)
22		(6.2)	6	(275)					(3.00)
23		(6.2)	6	(240)					(3.00)

Time: 0.0°.
Sweep: 1.0 Mc to 20.0 Mc in 15 seconds.

Table 47

Svalbard, Norway (78.2° N, 15.7° E) November 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.4)	5	270		---	----	2.1	----
01		(4.3)	3	280		---	----	3.0	----
02		(4.3)	6	290		---	(1.50)	1.5	----
03		(4.3)	6	290		---	(1.65)	1.8	----
04		(4.7)	7	330		---	2.15	2.6	----
05		(3.4)	6	285		---	(2.20)	3.2	(2.20)
06		(4.7)	7	200		---	----	3.1	----
07		(4.8)	7	300		---	----	3.2	----
08		(4.6)	0	290		120	2.25	3.1	----
09		(7.6)	6	280		---	2.00	3.0	(2.70)
10		(6.7)	9	265		---	----	2.6	(2.80)
11		(4.8)	9	265		---	1.70	3.2	(2.85)
12		(4.6)	5	270		120	1.85	3.2	----
13		(5.3)	7	255		---	2.25	3.4	----
14		(4.4)	5	255		---	(1.55)	3.2	----
15		(4.9)	7	260		---	----	3.8	----
16		(4.6)	3	260		---	----	4.0	----
17		(5.8)	4	250		---	----	3.9	----
18		(5.6)	4	250		---	1.40	3.3	----
19		(6.1)	2	250		---	----	3.1	----
20		---	0	250		---	----	2.0	
21		(9.3)	1	255		---	----	2.8	
22		(5.8)	6	250		---	E	1.8	----
23		(6.7)	3	250		---	----	1.0	----

Time: 15.0°E.
Sweep: 0.68 Mc to 24.6 Mc in 5 minutes, automatic operation.

Table 48

Dourbes, Belgium (50.1° N, 4.6° E) November 1950

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.1	28	285				(1.4)	2.50
01		4.8	28	280					2.50
02		4.7	28	270				<1.2	2.50
03		4.4	28	265				<1.3	2.60
04		4.0	28	250				<1.3	2.70
05		3.9	28	240				<1.6	2.70
06		3.9	27	245				<1.6	2.60
07		7.3	27	220		---	1.65		2.90
08		11.0	25	215		113	2.20		3.05
09		13.0	22	215		109	2.70	2.8	3.00
10		(14.0)	23	220		(112)	3.00		(2.90)
11		(14.4)	26	220		113	3.10		2.90
12		14.2	26	220		111	3.10		2.85
13		13.8	26	225		113	3.00		2.80
14		13.9	26	225		113	2.70		2.80
15		13.4	27	220		(118)	2.30	2.5	2.85
16		12.3	27	215		---	----	2.1	2.90
17		10.9	27	215				2.0	2.85
18		8.8	29	220				<1.7	2.85
19		7.2	28	220				<1.6	2.85
20		6.1	28	235				<1.6	2.75
21		5.4	20	250				<1.6	2.60
22		5.0	20	270				<1.6	2.50
23		5.0	28	285				<1.6	2.50

Time: 0.0°.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 49

Poitiers, France (46.6° N, 0.3° E) November 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(6.1)	30	295				2.3	(2.45)
01		(6.0)	30	285				2.2	2.50
02		(5.8)	30	290				2.2	(2.50)
03		(5.6)	30	280				2.2	(2.60)
04		(5.1)	30	260				2.2	(2.60)
05		4.4	29	<250	---				2.65
06		(4.3)	30	260		---	E		2.55
07		(7.1)	29	235		---	E		(2.80)
08		>11.0	29	225		120	2.20	2.6	(2.90)
09		>13.0	29	225		(115)	2.80	3.1	
10		(13.9)	29	230		<115	3.10	3.6	----
11		>14.0	29	230		<115	3.30	3.4	(2.80)
12		(13.8)	30	230		<115	3.35	3.6	----
13		(13.8)	30	230		(110)	3.25	3.5	----
14		>13.6	30	235		<115	3.00	3.4	----
15		>13.5	30	240		(115)	2.60	3.2	(2.75)
16		>12.9	30	230		---	1.80	3.0	----
17		>11.2	30	220		---	E	3.0	----
18		(9.6)	30	230		---	----	2.6	----
19		(8.9)	30	235				2.2	(2.65)
20		(7.2)	30	245				2.1	(2.70)
21		(6.6)	29	250				2.0	(2.60)
22		(6.3)	29	270					(2.40)
23		(6.2)	30	280				2.0	(2.50)

Time: 0.0°.
Sweep: 1.6 Mc to 17.0 Mc in 1 minute.

Table 50

Dakar, French W. Africa (14.8° N, 17.4° W) November 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>14.5	1	240				3.1	
01		>14.2	1	230				2.6	
02		(13.4)	3	210		---	----	2.9	----
03		(10.8)	5	210		---	----	2.9	----
04		7.9	11	200		---	----		3.20
05		7.3	10	215		---	----	2.3	(3.20)
06		(6.2)	12	225		---	E	2.8	(3.20)
07		(6.8)	15	250		---	(1.55)	3.0	3.10
08		11.4	15	240		100	2.50	2.9	(3.30)
09		14.2	15	235		95	(3.25)	3.3	3.10
10		(15.4)	5	210		100	3.75		----
11		(15.6)	2	210		100	3.95		----
12	---	(15.6)	5	(195)		100	4.00	4.8	----
13	---	(15.2)	5	<215		100	4.00	4.6	----
14	---	(15.2)	5	(210)	---	100	----	4.2	(2.35)
15	---	(14.6)	6	220		100	3.80	4.1	(2.30)
16		(14.4)	4	225		100	3.60	4.0	----
17		(14.6)	3	240		105	3.10	3.6	----
18		(14.4)	4	260		110	2.30	4.6	----
19		>14.2	3	320		---	(1.45)	4.2	----
20		----	0	400		---	----	3.2	
21		----	0	335				3.0	
22		----	0	285				3.0	
23		----	0	260		---	----	3.1	

Time: 0.0°.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes.

Table 51

Djibouti, French Somaliland (11.6° N, 43.2° E) November 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>8.9	2	275		---	----	2.0	
01		>8.5	2	250				2.0	----
02		>8.6	1	245				2.0	
03		(8.2)	8	240				2.0	----
04		7.6	15	230		---	----	1.9	(2.75)
05		7.0	15	225		---	----	1.9	(3.00)
06		6.6	16	260		---	E	1.9	(2.75)
07		(10.9)	11	260		120	2.65	3.3	----
08		>12.9	4	250		115	3.30	4.1	----
09		>13.7	5	240		---	(3.65)	6.6	----
10		>14.0	4	235		---	(3.95)	6.8	----
11		>13.8	11	230		---	(4.10)	6.8	----
12	---	>13.8	13	230		---	(4.20)	6.8	----
13	---	>13.8	10	230		---	(4.00)	6.8	----
14	---	>13.8	11	235		115	(3.90)	7.6	(2.10)
15	---	>14.0	6	240		---	(3.60)	6.8	----
16		>11.5	1	250		---	3.20	6.7	
17		>11.6	2	280		130	----	4.2	
18		>11.5	1	335		---	E	2.2	
19		>9.3	2	430		---	E		
20		>9.0	1	---					
21		----	0	---					
22		>9.0	1	(330)				2.2	
23		(9.5)	1	300				2.2	

Time: 45.0°E.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes.

Table 52

Paramaribo, Surinam (5.8° N, 55.2° W) November 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		(16.3)	16	260				1.7	(2.90)
01		(16.1)	14	240					(3.00)
02		16.4	16	230					(3.00)
03		15.6	20	215					3.05
04		13.0	25	205					3.05
05		10.1	26	210					3.05
06		7.6	28	210					3.00
07		6.4	29	215					2.90
08		5.4	29	250					2.85
09		5.8	29	250					2.80
10		10.0	30	250		<135	2.3		3.00
11		13.0	25	250		110	---	<3.7	3.00
12	---	15.3	19	255	---	---	---	<5.8	3.05
13	(300)	13.9	18	260	---	---	---	<5.9	2.95
14	(325)	13.5	21	250	---	---	---	<6.2	2.90
15	<380	13.2	15	(260)	---	---	---	<7.2	2.75
16	385	13.1	16	(250)	---	---	---	<7.0	2.75
17	400	13.0	19	---	---	---	---	<6.1	2.65
18	410	13.0	19	270	7.6	---	---	<5.8	2.55
19	400	12.8	19	250	(6.8)	---	---	<5.6	2.55
20	(380)	13.0	24	250	---	100	---	4.0	2.60
21	(360)	13.0	17	280	---	100	2.3	3.7	2.65
22		13.5	23	300				2.9	2.70
23		14.0	15	330				2.8	2.75

Time: 0.0°.
Sweep: 1.4 Mc to 20.0 Mc in 40 seconds.

Table 53

Bangui, French Equatorial Africa (4.6° N, 18.6° E) November 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(11.0)	3	265				2.0	----
01		(11.5)	5	260					----
02		11.4	14	250					2.80
03		(11.5)	11	240					(3.00)
04		>9.8	8	210				1.9	(3.00)
05		7.8	11	210		---	----	2.0	3.10
06		8.7	13	260		130	2.20	3.1	3.00
07		10.6	19	245		110	3.05	3.1	2.85
08		11.8	23	240		105	3.60		2.50
09		12.5	19	230		105	4.00	4.3	2.30
10		12.6	20	225		105	4.20		2.20
11		13.0	19	210		105	4.25		2.15
12		13.0	22	210		105	4.25		2.10
13		13.0	25	210		105	4.10		2.15
14		>12.8	25	215		105	4.00	4.2	2.10
15	---	(13.0)	22	240		105	3.60	4.0	2.10
16		>12.2	13	250		110	3.00	3.1	----
17		>11.6	7	290		120	2.00	3.1	----
18		>11.5	4	390		---	E	2.4	
19		----	0	460		---	----		
20		----	0	(405)					
21		----	0	(310)					
22		(13.0)	1	285					----
23		(12.7)	1	280					----

Time: 15.0°E.
Sweep: 1.2 Mc to 17.0 Mc in 1 minute.

Table 54

Hollandia, Netherlands New Guinea (2.5° S, 140.8° E) November 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00	---	(12.5)	5	---	---	---	---	<6.5	----
01	---	(12.0)	1	---	---	---	---	<7.7	----
02	---	----	0	---	---	---	---	<10.0	
03	---	----	0	---	---	---	---	<9.0	
04	---	(12.5)	1	---	---	---	---	<9.0	----
05	---	(12.5)	1	---	---	---	---	<10.0	
06	---	----	0	---	---	---	---	<7.2	
07	---	----	0	240	---	---	---	(3.4)	
08	---	----	0	260	---	---	---	<3.0	
09		(14.0)	1	345				<2.5	
10		(12.8)	2	350					----
11		----	0	300					
12		(13.3)	5	250					(2.75)
13		(12.4)	8	230					(2.80)
14		(11.7)	8	240					(2.85)
15		11.6	11	250					2.90
16		(10.6)	9	245					(2.85)
17		10.2	10	240					2.90
18		(9.6)	8	(245)					(2.90)
19		8.7	10	260					2.85
20		9.0	10	250					3.00
21		10.6	11	240		120	(2.8)		3.10
22		11.5	10	220		110	3.4		3.00
23		(12.2)	6	(230)		---	---	<5.4	(2.70)

Time: 0.0°.
Sweep: 1.4 Mc to 20.0 Mc in 40 seconds.

Table 55

Oecepcion I. (63.0° S, 60.7° W) November 1950

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(10.3)	11	(310)					(2.55)
01		>10.7	13	310					(2.40)
02		>10.0	13	315					(2.55)
03		>10.2	14	310		---	---		(2.25)
04		>10.6	14	(310)		---	---		(2.45)
05		>10.2	14	(300)		---	---		(2.50)
06	---	>10.5	14	(280)	----	---	---		(2.50)
07	(315)	>11.4	14	---	6.2				(2.55)
08	(390)	11.6	14	(220)	---				2.50
09	(410)	11.3	13	---	---				(2.50)
10	(390)	11.4	13	(215)	7.2				2.50
11	(370)	>11.0	12	---	7.6				2.60
12	(345)	11.1	14	---	7.3				2.60
13	---	----	0	---	---				
14	(380)	10.7	14	---	7.7				2.60
15	(450)	10.3	17	(220)	7.5				2.60
16	---	10.0	17	---	---				2.65
17	---	10.0	12	---	---				(2.70)
18	---	>9.9	18	(220)	---				2.70
19		10.1	13	(250)					(2.80)
20		>10.0	11	(265)					(2.70)
21		>10.0	11	(295)					----
22		>10.1	11	(305)		---	---		----
23		>10.4	6	---					----

Time: 60.0°W.
Sweep: 1.3 Mc to 10.0 Mc in 30 seconds.

Table 56

Halley Bay (75.5° S, 26.6° W) November 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00	---	>9.1	29	300	----	125	(2.20)	2.2	2.40
01	(385)	(9.2)	30	300	3.85	125	2.20	<2.4	2.40
02	430	9.6	26	300	3.90	120	2.25	<2.4	2.30
03	415	(9.7)	20	200	4.00	115	<2.45	2.6	2.30
04	435	9.4	28	275	4.25	115	>2.55	<2.6	2.30
05	420	9.4	29	260	4.50	110	2.75	2.8	2.30
06	430	>9.6	30	250	4.70	110	2.90		2.25
07	430	>9.3	30	250	4.90	110	>3.00	3.2	2.30
08	445	>8.9	30	245	5.05	110	3.20	3.3	2.30
09	455	8.6	30	245	5.20	105	(3.30)	3.4	2.30
10	460	8.0	30	<245	5.30	105	(3.35)		2.40
11	515	7.8	30	245	5.55	105	(3.40)		2.40
12	460	7.5	30	240	5.40	105	3.40		2.50
13	495	7.6	30	240	5.45	105	3.40		2.50
14	(485)	7.3	27	245	5.50	105	3.30		2.55
15	---	7.2	30	245	5.20	105	3.25		2.55
16	---	7.5	29	250	(5.10)	105	>3.10	3.2	2.60
17	---	7.6	30	250	4.85	110	(3.00)		2.65
18	---	7.9	29	255	----	110	(2.80)	3.0	2.70
19	---	8.0	29	265	----	115	(2.60)	2.8	2.70
20		8.1	29	275		120	>2.40		2.70
21		8.5	30	280		120	(2.40)	2.6	2.60
22		8.6	30	290	----	125	(2.30)		2.60
23		8.9	30	295	----	130	2.20		2.55

Time: 30.0°W.

Table 57

Murmansk, U.S.S.R. (69.0° N, 33.0° E) October 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(6.3)	12	(390)		---	----	>3.9	(2.40)
01		(6.2)	10	(380)		---	----	3.8	(2.40)
02		6.7	11	340		---	----	3.6	2.45
03		6.1	13	(320)		---	----	<2.6	2.40
04		6.5	13	(295)		---	----	<2.0	2.50
05		(6.8)	16	<290				<1.8	2.60
06		(5.8)	19	(290)				<2.3	2.60
07		7.3	21	(270)		---	(1.90)	<2.7	2.80
08		8.3	27	255		---	(2.20)	<2.6	2.80
09	---	9.6	30	(250)		---	2.45	<3.0	2.80
10	---	10.8	30	250	---	123	(2.70)	<3.0	2.75
11	---	11.5	28	245	---	117	(2.80)	<2.9	2.70
12	---	12.1	28	240	---	127	(2.85)	<2.9	2.80
13	---	11.2	24	240		129	<2.80	<2.8	2.80
14	---	12.0	22	240		121	(2.60)	<3.0	2.80
15		11.3	26	250		<135	<2.40	<2.6	2.80
16		11.5	27	<245		---	(2.00)	<2.5	2.90
17		11.0	28	245		---	1.85	<2.3	2.85
18		9.1	26	250		---	----	<2.4	2.80
19		8.1	22	(260)		---	----	<2.3	2.80
20		6.9	19	<290		---	----	3.1	2.70
21		6.1	17	<330		---	----	<3.0	2.60
22		(6.3)	9	(355)				3.2	(2.50)
23		(5.8)	6	360				4.0	(2.50)

Time: 30.0°E.
Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 58

Poitiers, France (46.6° N, 0.3° E) October 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(7.5)	29	290					(2.40)
01		(7.4)	29	295				2.0	(2.45)
02		7.1	30	290				2.3	2.40
03		(6.7)	29	290				2.4	(2.40)
04		(6.7)	29	270				2.2	(2.45)
05		(6.0)	29	250		---	----	2.0	(2.45)
06		6.4	30	270		---	E	2.3	2.60
07	---	>9.0	31	240	---	120	2.15		(2.80)
08	---	(12.4)	29	235	---	110	2.85	3.0	2.80
09	---	(12.8)	28	230	---	105	3.20	3.8	(2.70)
10	---	13.4	30	230	---	105	3.35	4.0	(2.65)
11	---	>13.2	30	235	---	105	3.60	4.1	(2.70)
12	(305)	>13.5	30	235	(7.4)	110	3.60	3.8	(2.65)
13	---	>13.4	30	235	---	110	3.60	3.6	<2.60
14	---	>13.0	31	240	---	<110	3.45	3.6	----
15		>13.0	31	245		<115	3.20	3.6	----
16		>12.5	31	250		(115)	2.60	3.1	----
17		>12.0	30	245		---	E	3.3	
18		>11.0	31	245		---	E	2.7	----
19		>10.0	30	240		---	----	2.6	----
20		>9.0	29	250				2.4	----
21		>8.5	29	255					(2.30)
22		(8.0)	29	260					(2.35)
23		(8.0)	29	280					(2.35)

Time: 0.0°.
Sweep: 1.6 Mc to 17.0 Mc in 1 minute.

Table 59

Rabat, Morocco (30.9° N, 6.8° W) October 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(9.0)	27	<275					(2.45)
01		9.0	26	<280					(2.65)
02		>9.0	24	<275					(2.75)
03		(8.7)	25	<265					2.75
04		8.0	25	<250					3.00
05		6.6	26	<250					2.70
06		6.6	24	<265					2.70
07		>9.1	20	245		130	2.00		(3.10)
08	---	12.5	22	240		115	2.85		3.05
09	---	13.9	23	235		110	3.40		2.90
10	---	13.4	27	230		110	3.55		2.85
11	---	13.5	28	230		110	3.60		2.70
12	---	13.3	29	230		110	3.70		2.60
13	---	13.4	28	230	---	110	3.75		2.50
14	(365)	13.4	27	240		110	3.70		2.50
15	---	13.4	26	245		110	3.55		2.50
16		13.2	25	250		115	3.20	3.7	2.60
17		13.0	24	(255)		120	2.45	3.6	2.65
18		(12.5)	23	250		---	----	2.9	(2.70)
19		>10.0	26	<260				3.2	
20		(9.5)	26	<275				2.5	----
21		>9.0	26	<275				2.4	(2.70)
22		(9.4)	26	<270				2.0	----
23		>9.0	25	<270					(2.50)

Time: 0.0°.
Sweep: 1.6 Mc to 17.0 Mc in 1 minute.

Table 60

Tamanrasset, French W. Africa (22.8° N, 5.5° E) October 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>16.0	29	240		---	E	2.0	----
01		>14.5	23	235		---	E	2.0	----
02		>13.2	20	230		---	E	2.1	----
03		>9.0	21	210		---	E	2.0	----
04		>7.5	23	<235		---	E	2.2	(2.90)
05		>7.2	25	250		---	E	2.5	3.00
06		>10.5	24	260		120	2.00	2.6	(3.10)
07		>13.7	31	240		105	2.90	3.2	3.20
08		14.4	31	230		100	(3.50)	3.7	3.10
09		15.0	31	225		100	3.80	4.1	(2.90)
10		>15.0	31	215		100	(4.00)	4.3	(2.80)
11	(415)	>15.0	31	215		100	4.10	4.3	2.60
12	415	>16.0	30	210		100	(4.10)	4.3	(2.55)
13	410	D	30	230		100	(4.00)	4.3	----
14	400	D	29	235		105	(3.80)	3.9	
15	(380)	0	30	240		105	(3.45)	3.7	
16	---	0	28	250		110	2.80	3.3	
17		0	27	275		---	1.85	2.7	
18		D	26	335		---	E	2.6	
19		0	21	335		---	E	2.0	
20		0	21	285		---	E	1.9	
21		0	18	250		---	E	1.8	
22		0	25	240		---	E	2.0	
23		0	28	240		---	E	1.9	----

Time: 0.0°.
Sweep: 1.2 Mc to 17.0 Mc in 1 minute.

Table 61

Dakar, French W. Africa (14.8° N, 17.4° W) October 1950

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>14.0	1	250		---	----		
01		(16.8)	3	240		---	----		
02		>17.0	5	220		---	----		----
03		>13.5	5	200		---	----		----
04		(9.2)	5	210		---	E	1.7	----
05		8.2	10	220		---	E		(3.10)
06		>8.2	9	220		---	E		(3.30)
07		(7.1)	8	240		---	----	2.6	(3.20)
08		(12.4)	7	220		100	2.70	3.1	----
09	---	>14.0	14	215		100	(3.40)	3.7	(3.10)
10	---	>15.0	15	205		100	3.80	3.8	(3.10)
11	---	(15.4)	14	(210)		100	----		(2.80)
12	---	>15.5	13	---		100	----		(2.60)
13	---	>16.0	9	---		100	----	(3.7)	----
14	---	>16.5	14	(200)		100	----	(3.9)	----
15	---	(16.8)	8	(190)		100	----	(4.0)	----
16	---	>16.3	10	210		100	(3.70)	3.8	----
17		>14.5	3	220		100	3.35	3.4	
18		>14.3	2	240		105	2.65	2.8	
19		>14.6	2	300		---	----	3.5	
20		>15.1	2	380		---	----	2.8	
21		----	0	340		---	----		
22		----	0	290		---	----		
23		----	0	290		---	----	2.1	

Time: 0.0°.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes.

Table 62

Djibouti, French Somaliland (11.6° N, 43.2° E) October 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(9.4)	2	265				2.2	
01		>9.3	6	250				1.9	----
02		(8.8)	8	240				1.0	(2.80)
03		7.9	13	245		---	----	1.8	2.80
04		>8.0	10	240		---	----	2.1	(3.00)
05		>7.0	12	230		---	----	3.5	(3.10)
06		7.8	13	255		---	E	3.4	(2.95)
07		>11.0	9	250		120	2.80	4.0	(3.00)
08		----	0	240		(110)	3.40	4.0	
09		----	0	240		110	(3.80)	4.4	
10	---	(16.6)	2	230	---	110	(4.00)	6.3	----
11	---	>15.1	4	230	---	---	(4.20)	6.6	----
12	---	>14.0	3	(235)	---	---	(4.30)	6.5	----
13	---	(14.0)	3	(230)		(110)	(4.20)	5.8	----
14	---	(13.9)	4	230		<120	(4.00)	4.5	----
15	---	----	0	240		<120	(3.75)	4.5	
16	---	>12.5	1	245		110	(3.30)	4.4	
17		----	0	260		120	----	4.4	
18		----	0	320		---	E	3.5	
19		(9.5)	6	460		---	E		----
20		(9.0)	2	---					
21		(6.0)	1	(345)					
22		(9.5)	1	(310)				2.0	
23		(8.9)	1	285				2.1	----

Time: 45.0°E.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes.

Table 63

Bangui, French Equatorial Africa (4.6° N, 18.6° E) October 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(12.5)	7	250				1.8	(2.70)
01		>11.5	12	260				2.1	2.85
02		11.9	15	250				1.9	2.90
03		11.2	16	245		---	----	1.7	3.00
04		>10.2	10	225		---	----	2.2	(3.10)
05		7.2	10	220		---	----	2.6	3.10
06		9.0	14	255		130	2.20	3.1	3.10
07		11.8	18	250		110	3.20	4.2	2.90
08		13.0	24	240		105	3.70	4.4	2.60
09		13.7	18	225		105	4.00	4.4	2.40
10		14.0	23	225		110	4.20	4.4	2.30
11		13.6	21	220		105	4.40		2.20
12	---	14.0	21	220		105	4.40		2.20
13	---	14.0	22	220		105	4.20		2.20
14	---	13.9	18	210		105	4.00		2.20
15	---	13.5	19	240		105	(3.60)	3.8	2.10
16		13.4	15	250		110	----	3.2	2.10
17		>12.2	11	280		125	2.20	3.0	----
18		>12.2	3	375		---	E		
19		----	0	475		---	----		
20		(12.7)	2	390					
21		>11.8	1	(310)					
22		(11.8)	2	275					----
23		>11.8	3	260					----

Time: 15.0°E.
Sweep: 1.2 Mc to 17.0 Mc in 1 minute.

Table 64

Hollandia, Netherlands New Guinea (2.5° S, 140.8° E) October 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00	<390	----	0	(260)		---	---	<7.5	
01	<425	----	0	<350		---	---	<9.7	
02	(450)	----	0	---		---	---	<10.0	
03	<465	----	0	---		---	---	<10.0	
04	<460	----	0	---		---	---	<10.0	
05	<440	----	0	<350	---	---	---	<9.4	
06	(430)	(13.7)	1	<200	---	---	---	<9.0	----
07	<435	----	0	<250	---	110	3.1	<3.8	
08	(445)	(12.8)	1	265	---	120	2.7	3.3	----
09		(12.4)	1	350					----
10		(12.8)	7	360					(2.40)
11		(12.8)	5	305					(2.60)
12		(12.7)	9	250					(2.70)
13		(11.7)	13	230					(2.90)
14		(11.8)	16	215					(2.75)
15		(11.3)	22	250					(2.80)
16		11.2	22	245					(2.90)
17		10.9	26	235					2.95
18		10.4	24	230					3.00
19		10.0	25	230					3.05
20		8.9	24	210		---	E		3.20
21		10.8	26	230		115	2.8	2.8	3.15
22		11.8	24	230		100	3.5	(3.8)	3.00
23		(12.3)	7	250		100	---	<6.0	(2.70)

Time: 0.0°.
Sweep: 1.4 Mc to 20.0 Mc in 40 seconds.

Table 65

Tahiti, Society Is. (17.7° S, 149.3° W) October 1950

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		13.4	22	250		---	E	3.0	2.80
01		>11.5	23	250		---	(0.90)	2.4	2.60
02		10.3	23	280		---	(0.90)	2.6	2.55
03		9.6	23	290		---	E	2.2	2.60
04		9.2	22	280		---	E	2.3	2.65
05		9.2	20	280		---	(1.05)	2.3	2.70
06		11.9	20	260		125	2.20	3.1	2.85
07		13.2	20	245		110	3.10	3.4	2.85
08		13.5	19	240		105	3.60	3.8	2.70
09		14.1	22	240		105	(4.00)		2.60
10	---	15.0	22	240		105	----		2.50
11	420	15.4	24	245	---	105	----		2.45
12	450	15.5	21	245	---	105	----		2.40
13	445	15.7	25	250	---	105	(4.25)		2.40
14	445	15.6	24	250	7.0	105	(4.10)		2.40
15	430	15.4	24	250		105	3.80		2.40
16	420	15.6	24	250		110	3.40	3.4	2.40
17		15.6	26	270		115	2.75	3.2	2.40
18		15.8	25	310		---	(1.40)	3.1	2.40
19		16.0	25	360		---	(1.10)	3.6	2.40
20		0	25	340		---	E	3.1	2.40
21		0	25	310		---	E	3.0	2.50
22		D	24	280		---	E	2.7	2.60
23		15.6	24	270		---	E	2.8	2.75

Time: 150.0°W.
Sweep: 1.2 Mc to 17.0 Mc in 1 minute.

Table 66

Tananarive, Madagascar (18.8° S, 47.5° E) October 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.3	21	250		---	----		2.90
01		8.6	20	240		---	E		2.75
02		7.7	10	245		---	E		(2.75)
03		7.2	16	260		---	E	1.7	(2.80)
04		6.4	15	260		---	E	1.5	(2.80)
05		6.5	17	270		---	E		(2.05)
06		9.5	17	240		115	2.35	2.8	3.05
07		11.8	20	240		110	3.10		3.00
08	---	12.7	19	235		105	----		2.95
09	---	12.8	13	225		105	----		2.80
10	---	(13.0)	9	(220)		100	----		(2.75)
11	---	(13.0)	9	(215)		100	----		(2.70)
12	---	(13.0)	8	---		---	----		(2.65)
13	(390)	12.8	14	---	---	100	----		2.50
14	(390)	12.7	17	(235)		100	----		2.50
15	(390)	12.7	20	235		110	(3.80)	4.3	2.50
16	(385)	12.4	21	240		110	3.20	3.8	2.55
17		12.3	23	255		120	(2.40)	3.2	2.60
18		12.5	23	270		---	----	2.8	2.70
19		12.4	24	270		---	----	2.7	2.80
20		12.5	19	260		---	----	2.0	2.80
21		12.2	20	250		---	----		(2.90)
22		11.0	20	245		---	----	1.9	2.90
23		10.8	19	250		---	E		2.95

Time: 45.0°E.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes.

Table 67

Tsumeb, South W. Africa (19.2° S, 17.7° E) October 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	fEs	(M3000)F2
00		8.90	30	244				1.8	2.78
01		7.80	31	245				1.6	2.68
02		7.22	31	257				1.7	2.67
03		6.81	31	260					2.75
04		6.40	31	245		---	----		2.84
05		6.32	30	255		150	1.10		2.76
06		9.20	31	235		115	2.26		3.07
07		11.28	30	230		110	3.17		2.98
08		12.20	29	229		106	3.62		2.83
09		12.80	29	222		---	3.94		2.65
10		13.02	31	220		---	4.14		2.55
11		13.50	31	218		---	4.27		2.52
12		13.80	29	220		---	4.28		2.47
13		13.62	30	225		---	4.23		2.45
14	---	13.62	29	230	---	---	4.07	4.8	2.44
15		13.52	30	240		---	3.76	4.7	2.45
16		13.30	30	244		108	3.30	4.4	2.48
17		13.15	30	260		112	2.53	3.8	2.53
18		13.10	31	270		---	----	3.0	2.62
19		12.75	30	268		---	----	2.2	2.66
20		12.65	31	260		---	----	2.6	2.70
21		11.94	30	245		---	----	2.2	2.70
22		10.90	31	250		---	----	1.7	2.71
23		10.20	31	250		---	----	2.3	2.80

Time: 15.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 68

Decepcion I. (63.0° S, 60.7° W) October 1958

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.5	13	300					2.40
01		9.1	13	300					2.40
02		8.6	19	300					2.30
03		8.5	25	320					2.30
04		8.4	26	325					2.30
05		8.8	26	300					2.30
06		9.0	24	265	---				2.40
07	---	9.1	14	225			---		2.60
08	---	10.3	11	210					2.80
09	---	(9.8)	8	200					(2.70)
10	(300)	(10.8)	9	200	---				(2.70)
11	315	11.5	10	200	---				2.85
12	(310)	12.6	14	215					2.85
13	---	(13.2)	2	---					----
14	(260)	12.8	15	215					2.80
15	---	12.0	10	210					2.70
16	---	11.3	11	220					2.80
17	---	(10.4)	8	220					(2.90)
18	---	(11.4)	7	220					(2.90)
19		(11.5)	1	230			---		----
20		----	0	250			---		
21		(8.9)	6	250					(2.80)
22		9.5	13	265					2.60
23		9.4	12	295					2.50

Time: 45.0°W.
Sweep: 1.3 Mc to 18.0 Mc in 30 seconds.

Table 69

Murmansk, U.S.S.R. (69.0° N, 33.0° E) November 1957

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(7.3)	4	(360)			----	3.3	----
01		(7.4)	6	<350				3.2	(2.55)
02		(8.1)	6	(320)				<3.2	----
03		(7.9)	10	(340)				<3.3	(2.45)
04		(7.1)	15	<305				<2.2	(2.65)
05		(7.0)	14	(270)			----	<2.0	(2.60)
06		(6.4)	14	<260			----	<2.0	(2.65)
07		(6.1)	20	<270			----	<2.0	(2.60)
08		6.8	22	<270			<2.00	<2.0	2.70
09		8.2	28	<270			<2.00	<2.3	2.80
10		10.0	10	(240)			<2.20	<3.1	2.85
11		11.0	10	<250			<2.50	<3.4	2.00
12		>11.0	8	(230)			(2.40)	<3.0	(2.75)
13		(10.7)	5	<230			<2.50	<3.0	----
14		9.5	10	240			<2.20	<2.8	(2.75)
15		(7.3)	7	(220)			<2.00		----
16		(7.8)	14	<230			----	<2.3	(2.80)
17		(7.4)	14	<270			----	2.4	(2.95)
18		(6.5)	15	<270			----	<2.7	(2.70)
19		(7.1)	8	<270			----	3.0	(2.80)
20		(6.3)	8	<260			----	3.1	(2.85)
21		(6.1)	6	<325			----	3.8	----
22		(5.3)	7	<340			----	3.6	----
23		(7.0)	6	(380)				3.2	(2.35)

Time: 30.0°E.
Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 70

Halley Bay (75.5° S, 26.6° W) November 1957

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00	---	(7.3)	27	325	4.00	<150	<2.10	2.4	(2.30)
01	(450)	>7.0	24	320	3.90	120	2.10	<2.6	2.15
02	500	(7.5)	25	320	4.00	110	>2.30	2.7	2.20
03	490	>7.1	25	305	4.05	110	<2.50	2.8	2.15
04	540	7.3	26	300	4.20	110	(2.75)	2.8	2.10
05	510	7.7	23	275	4.30	110	2.80		2.10
06	505	8.2	22	260	4.60	110	<3.00	<2.9	2.10
07	540	7.4	25	255	4.80	110	(3.20)		2.10
08	560	7.0	24	250	4.90	105	(3.30)	(3.4)	2.15
09	550	6.8	25	250	5.00	105	(3.40)	3.5	2.20
10	575	6.6	27	250	5.20	105	(3.40)		2.20
11	615	6.6	28	250	5.30	105	>3.40		2.10
12	560	6.8	26	250	5.40	105	(3.50)		2.20
13	550	6.9	24	250	5.40	105	(3.50)		2.25
14	550	6.9	27	250	5.05	105	3.40		2.30
15	545	6.9	28	250	5.10	105	(3.30)		2.30
16	400	7.0	28	250	<5.05	110	>3.10		2.40
17	480	7.2	28	260	4.60	110	>3.00	(3.4)	2.40
18	520	7.2	28	<270	<4.60	110	<2.90	<3.3	2.45
19	495	7.4	28	270	4.35	110	(2.80)		2.45
20	---	7.6	27	300	3.90	115	<2.70	2.7	2.50
21	---	(7.4)	28	310	----	115	(2.20)	2.7	2.45
22	---	(7.6)	26	310	----	<150	<2.15		2.40
23	---	>6.9	28	320	----	110	<2.10	<2.5	2.25

Time: 30.0°W.

Table 71

Murmansk, U.S.S.R. (69.0° N, 33.0°E) October 1957

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(7.0)	6	<390				(3.9)	(2.50)
01		(6.5)	9	(360)				<4.0	(2.40)
02		(6.0)	12	(380)				>4.1	(2.50)
03		(6.6)	14	<350				<3.5	(2.45)
04		(5.8)	9	(290)				2.5	(2.40)
05		(6.0)	15	(270)			----	2.3	(2.50)
06		(6.5)	15	(270)		<1.55	<2.0	2.60	
07		7.6	25	(270)		(2.00)	<2.0	2.70	
08		9.0	25	(250)		2.20		2.85	
09		10.0	25	(250)		(2.60)		2.80	
10		10.6	21	(240)		2.65		2.00	
11		10.7	17	240		2.85		2.75	
12		11.0	18	<240		<3.00		2.75	
13		11.4	18	230		<2.80		2.80	
14		11.5	19	230		2.60		2.85	
15		11.8	20	240		2.30		2.85	
16		11.2	19	(240)		(2.00)		2.90	
17		10.6	20	<260		<1.80	<2.2	2.85	
18		9.0	18	<260		----	(2.3)	2.80	
19		(6.8)	17	(280)			<2.3	2.70	
20		(6.3)	12	(320)			3.0	(2.80)	
21		(6.2)	9	<340			3.4	(2.55)	
22		(6.4)	11	(370)			3.4	(2.45)	
23		(6.6)	8	<370			3.8	(2.45)	

Time: 30.0°E.
Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 72

Halley Bay (75.5° S, 26.6° W) October 1957

Time	h'F2	foF2—Count		h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>6.3	27	385		150	1.60	<2.1	----
01		(6.7)	25	375		150	1.79		----
02		>6.9	27	360		150	1.80		(2.20)
03	---	7.3	27	355	3.60	125	(1.90)	<2.1	(2.10)
04	<455	(7.7)	26	335	3.80	125	(2.10)	<2.3	(2.05)
05	465	7.6	28	(310)	<4.10	<125	(2.50)		(2.10)
06	460	7.6	29	<290	4.30	115	(2.70)		<2.15
07	500	7.5	30	265	4.50	110	>2.90		2.15
08	480	7.5	29	250	5.00	110	(3.10)		2.30
09	500	7.7	30	250	5.25	110	<3.30		2.30
10	480	7.8	29	250	5.25	110	(3.45)		2.40
11	490	8.1	29	<250	5.20	110	<3.50		2.45
12	500	8.3	31	250	<5.65	110	<3.40		2.45
13	(470)	8.3	30	250	5.65	110	>3.10		2.50
14	---	8.7	31	245	(5.40)	110	(3.40)		2.50
15	---	9.2	30	250	----	110	>3.05		2.60
16	---	9.3	31	250	----	110	(2.90)		2.55
17	---	>9.3	30	260	----	115	(2.80)		<2.75
18		9.1	31	265		115	(2.50)		2.70
19		8.4	20	205		115	>2.30		2.65
20		8.6	27	300		<150	(2.10)	<2.2	2.60
21		8.1	27	305		150	(1.80)		(2.50)
22		(7.3)	27	320		165	<1.70		(2.50)
23		>6.7	27	330		170	<1.80	2.0	(2.45)

Time: 30.0°W.

Fig. 1. WASHINGTON, D.C.
38.7°N, 77.1°W DECEMBER 1960

NBS 503

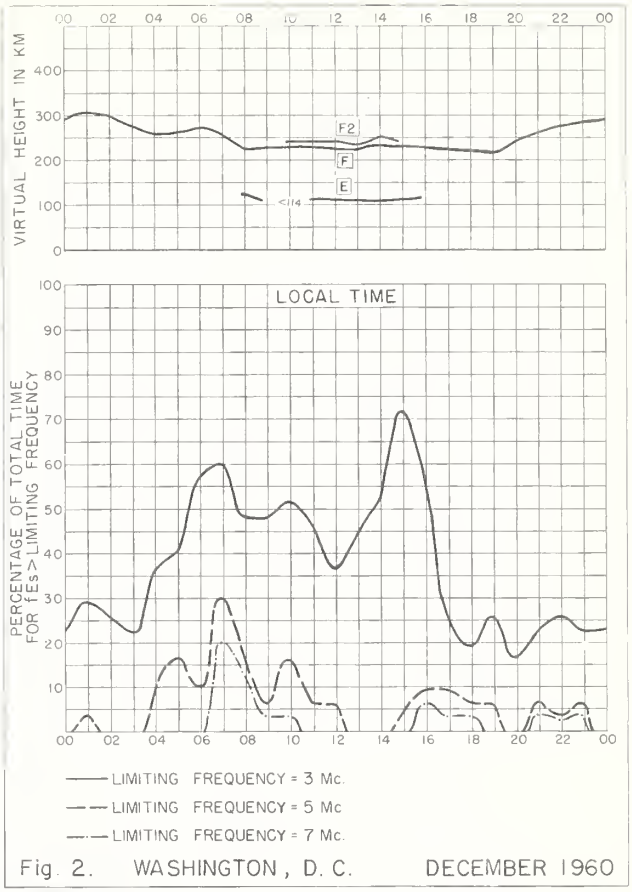


Fig. 2. WASHINGTON, D.C. DECEMBER 1960

NBS 490

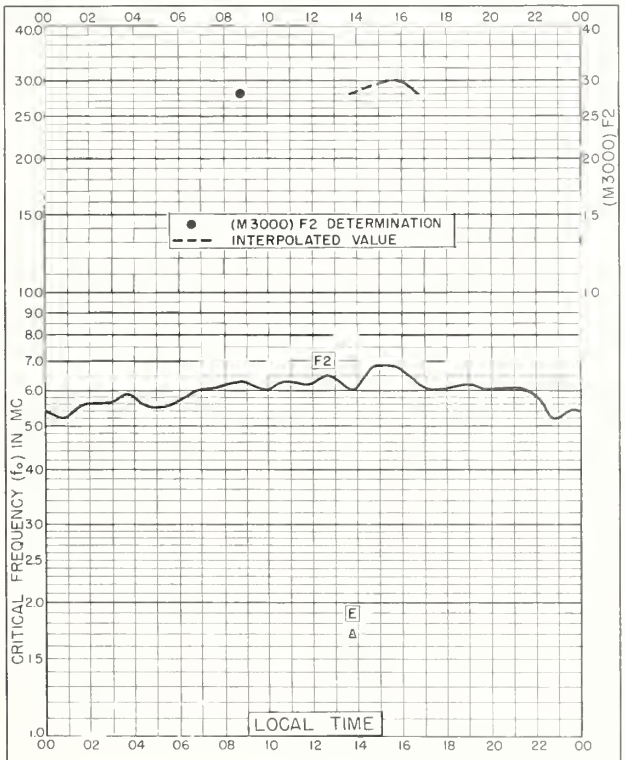


Fig. 3. RESOLUTE BAY, CANADA
74.7°N, 94.9°W NOVEMBER 1960

NBS 503

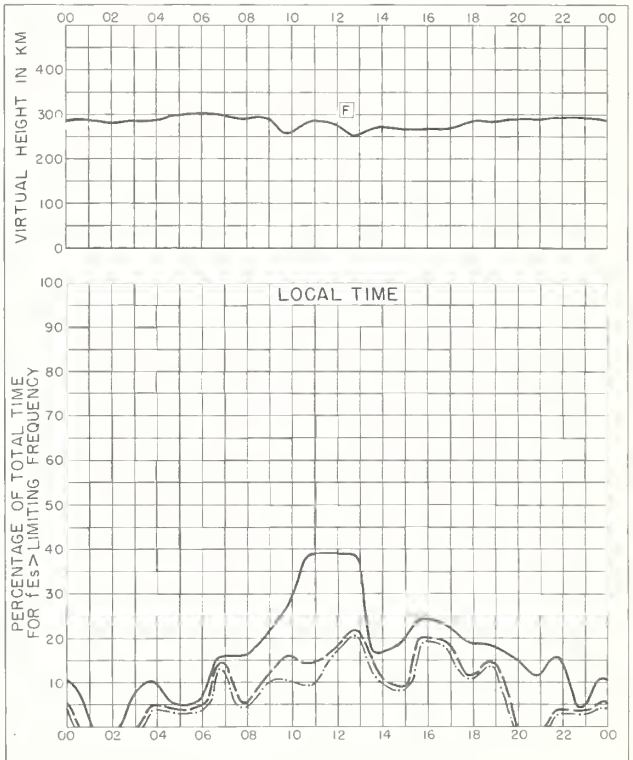


Fig. 4. RESOLUTE BAY, CANADA NOVEMBER 1960

NBS 490

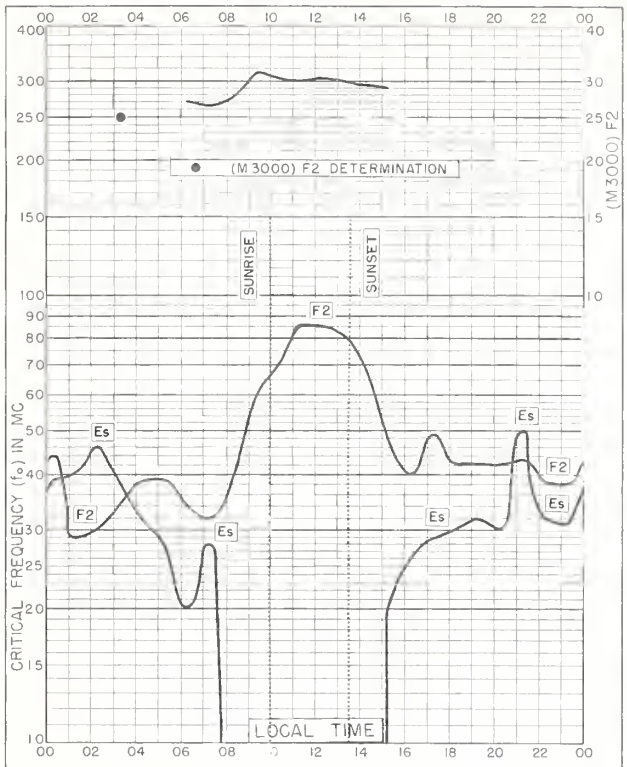


Fig. 5. TROMSO , NORWAY
69.7°N, 19.0°E NOVEMBER 1960

NBS 503

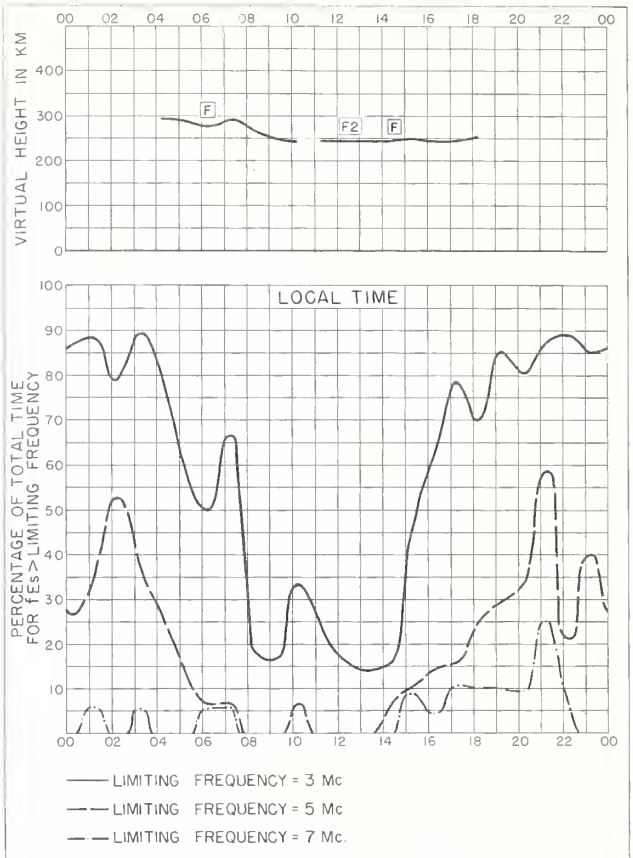


Fig. 6. TROMSO, NORWAY NOVEMBER 1960

NBS 490

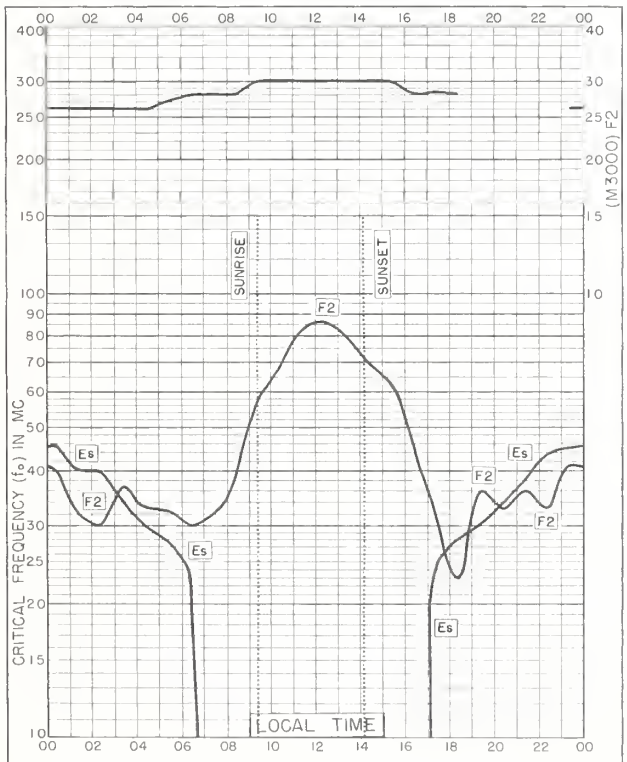


Fig. 7. KIRUNA , SWEDEN
67.8°N , 20.3°E NOVEMBER 1960

NBS 503

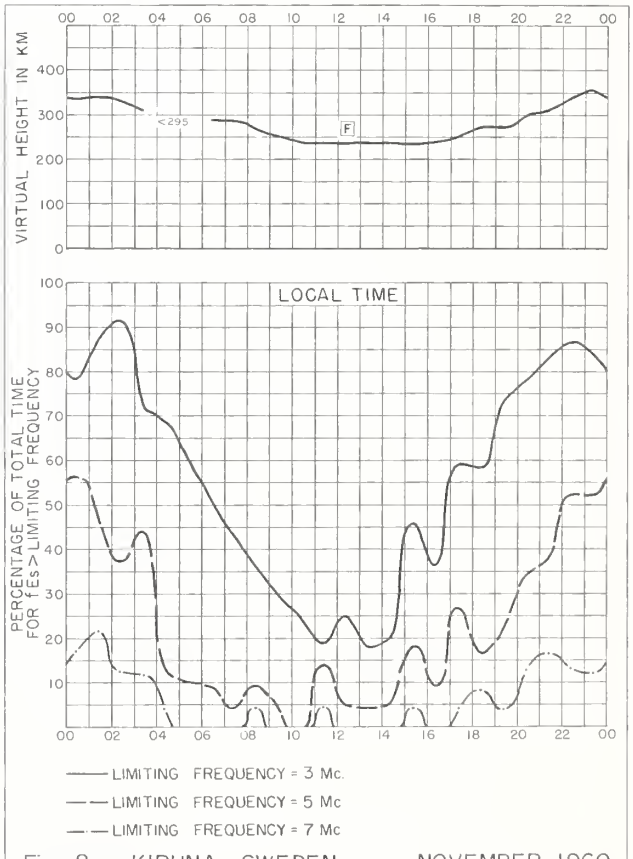


Fig. 8. KIRUNA , SWEDEN NOVEMBER 1960

NBS 490

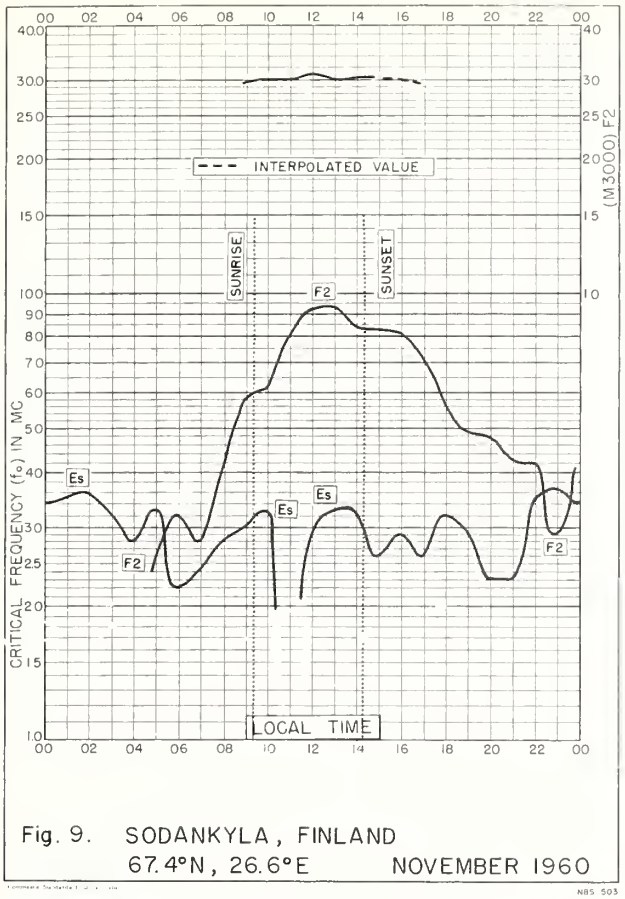


Fig. 9. SODANKYLA, FINLAND
67.4°N, 26.6°E NOVEMBER 1960

NBS 503

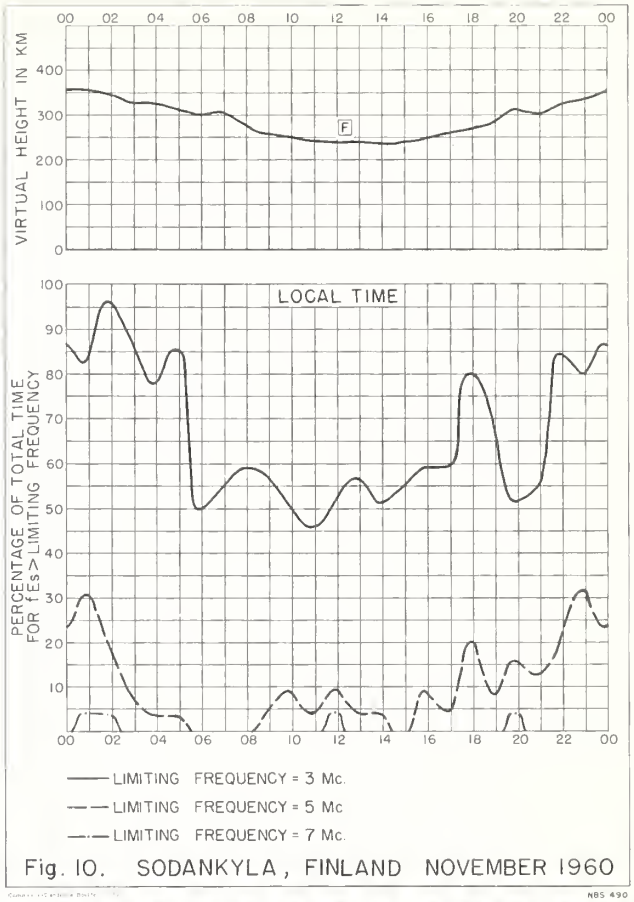


Fig. 10. SODANKYLA, FINLAND NOVEMBER 1960

NBS 490

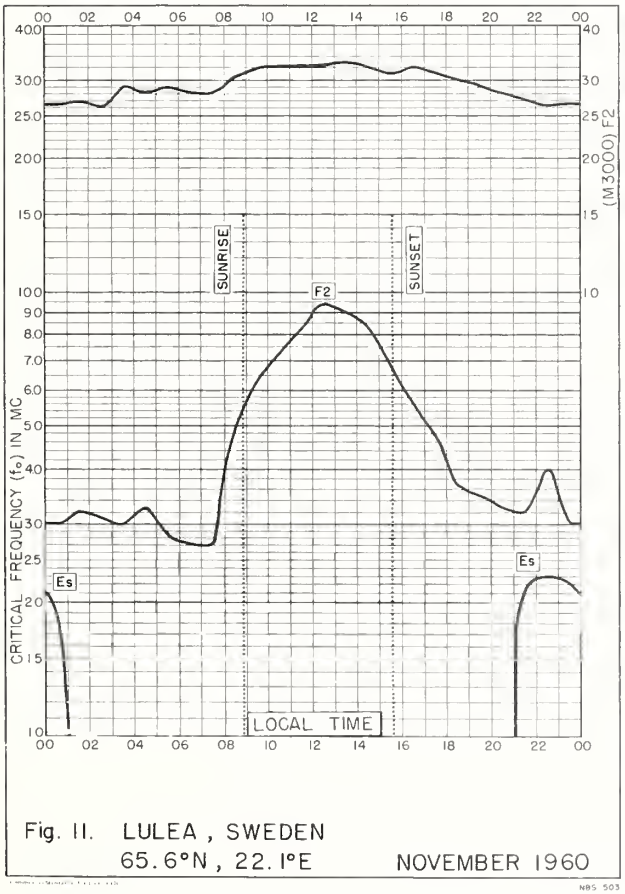


Fig. 11. LULEA, SWEDEN
65.6°N, 22.1°E NOVEMBER 1960

NBS 503

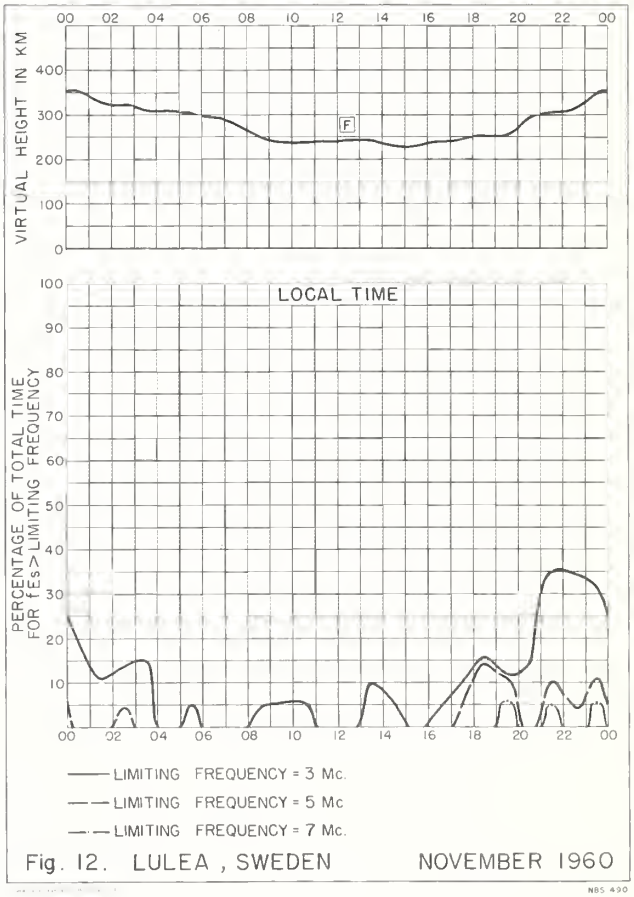


Fig. 12. LULEA, SWEDEN NOVEMBER 1960

NBS 490

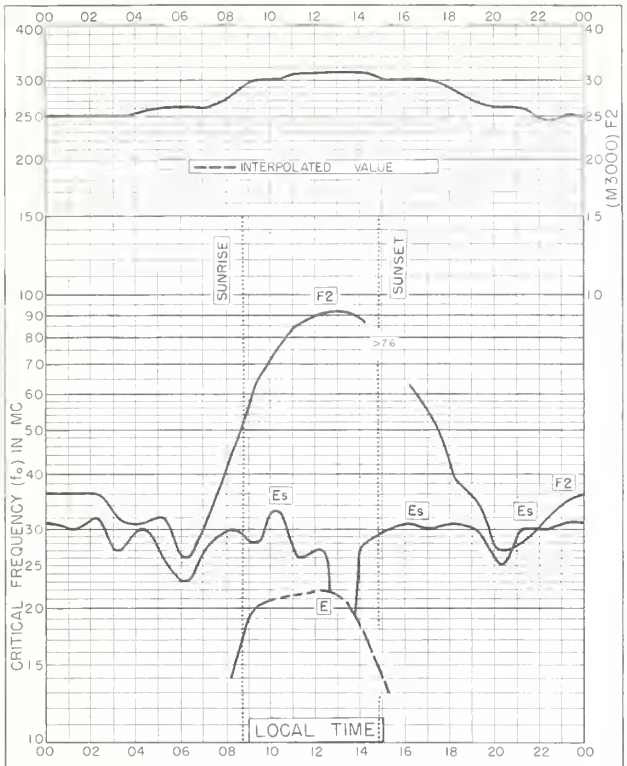


Fig. 13. LYCKSELE, SWEDEN
64.6°N, 18.8°E NOVEMBER 1960

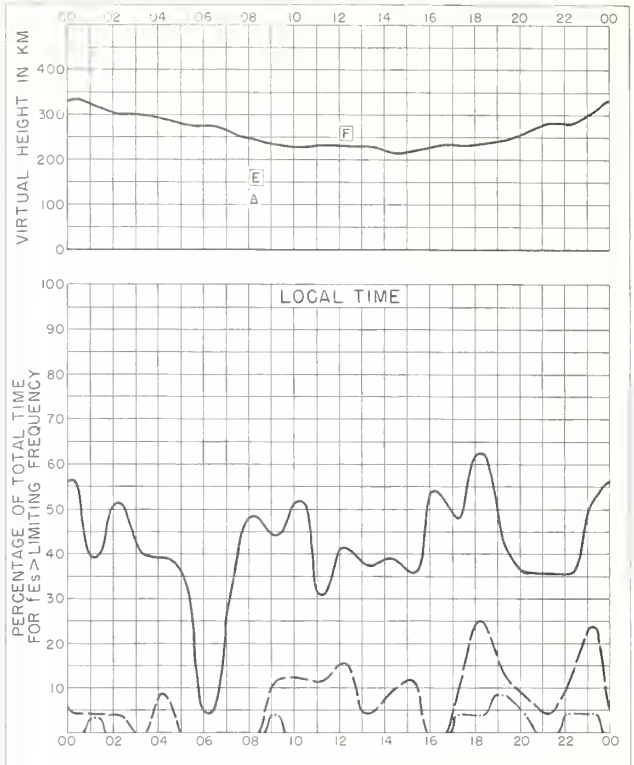


Fig. 14. LYCKSELE, SWEDEN NOVEMBER 1960

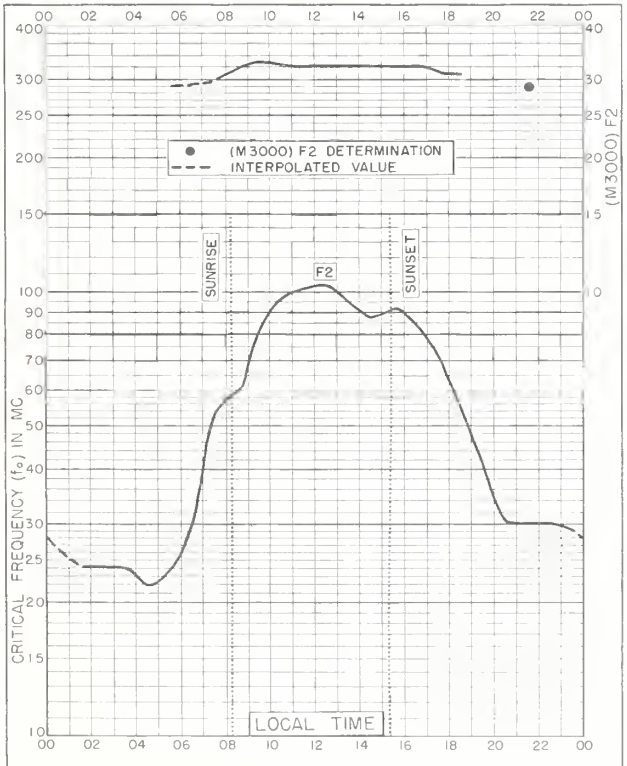


Fig. 15. NURMIJARVI, FINLAND
60.5°N, 24.6°E NOVEMBER 1960

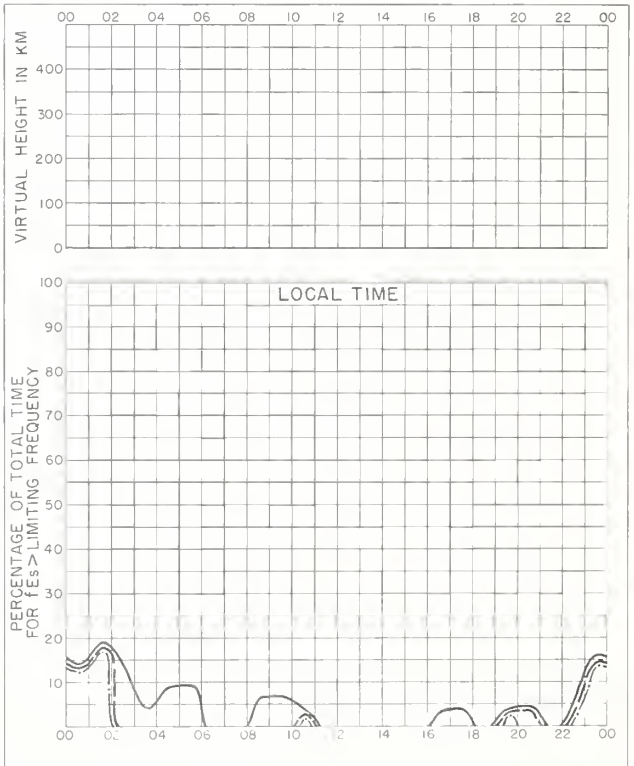


Fig. 16. NURMIJARVI, FINLAND NOVEMBER 1960

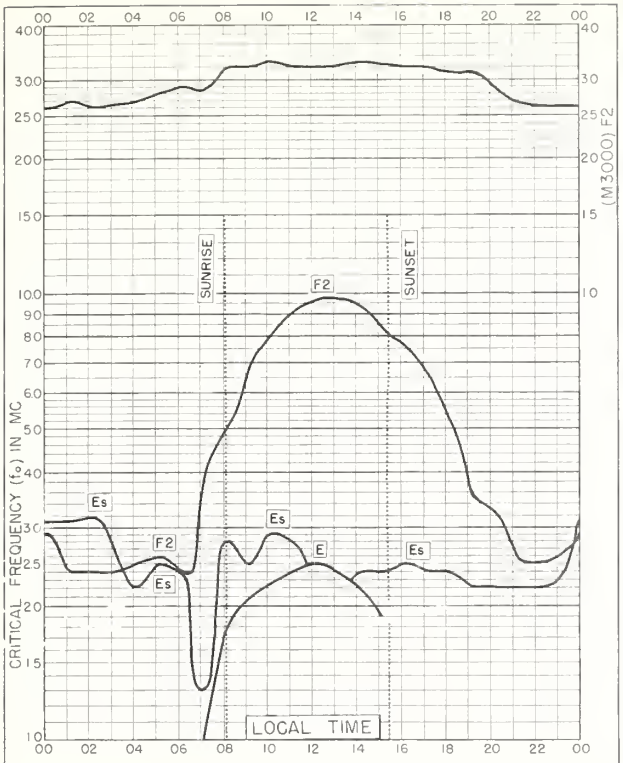


Fig. 17. UPSALA, SWEDEN
59.8°N, 17.6°E NOVEMBER 1960

NBS 503

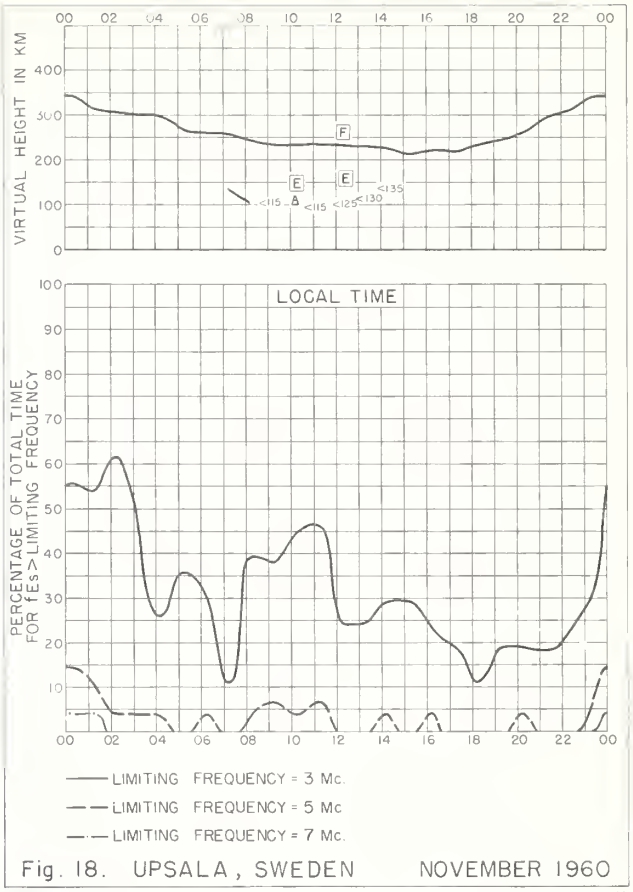


Fig. 18. UPSALA, SWEDEN NOVEMBER 1960

NBS 490

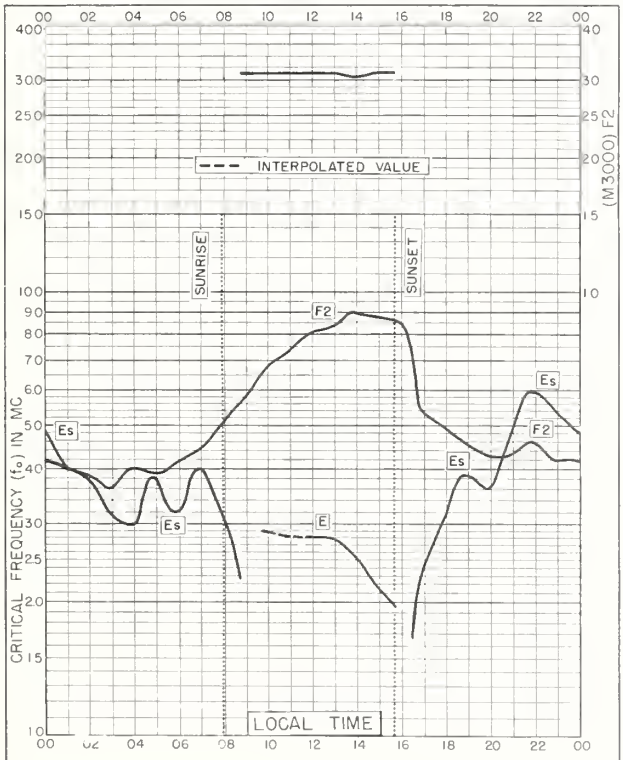


Fig. 19. CHURCHILL, CANADA
58.8°N, 94.2°W NOVEMBER 1960

NBS 503

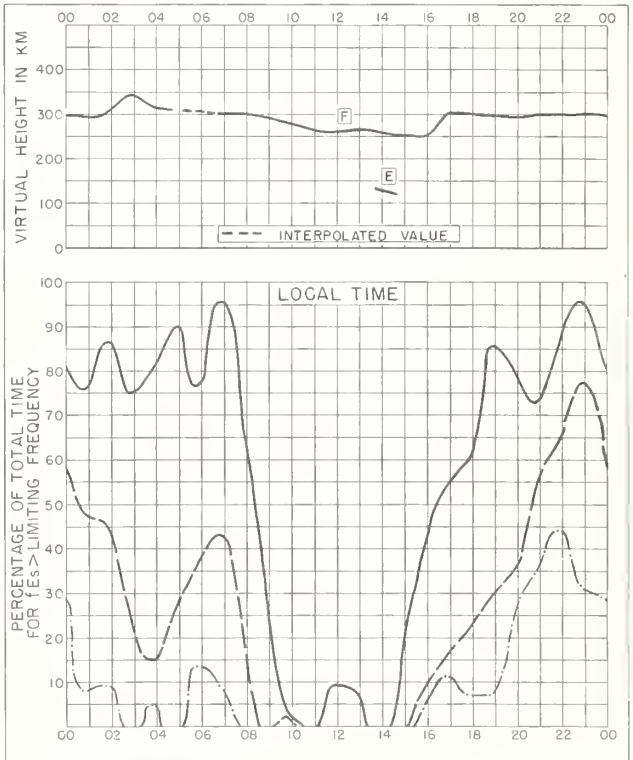


Fig. 20. CHURCHILL, CANADA NOVEMBER 1960

NBS 490

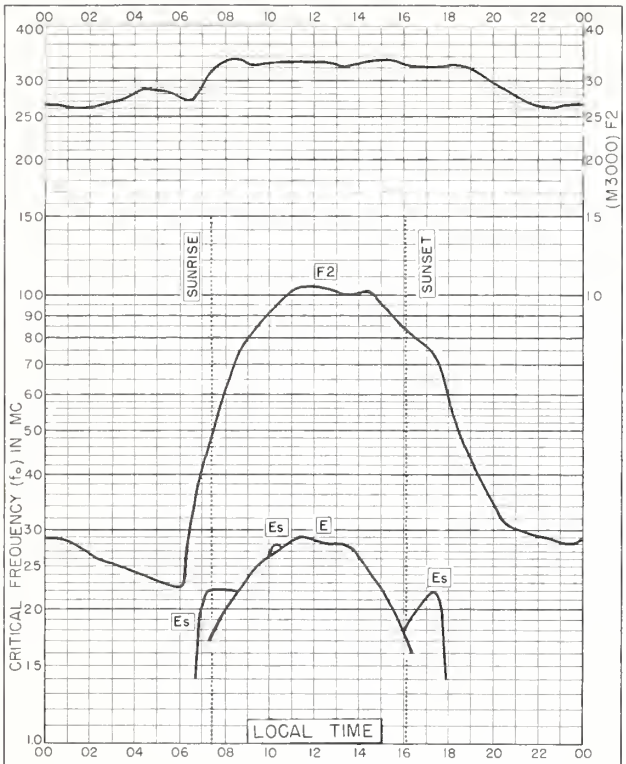


Fig. 21. De BILT, HOLLAND
52.1°N, 5.2°E NOVEMBER 1960

NBS 503

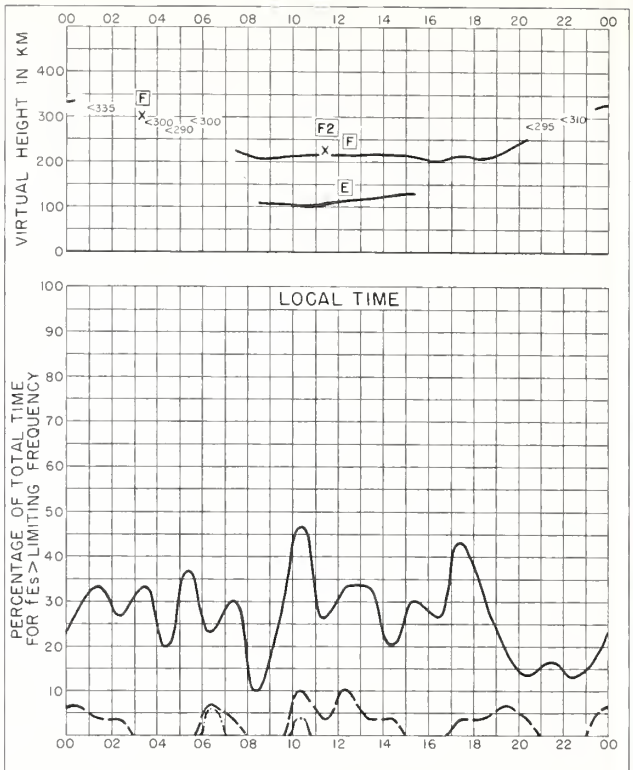


Fig. 22. De BILT, HOLLAND NOVEMBER 1960

NBS 490

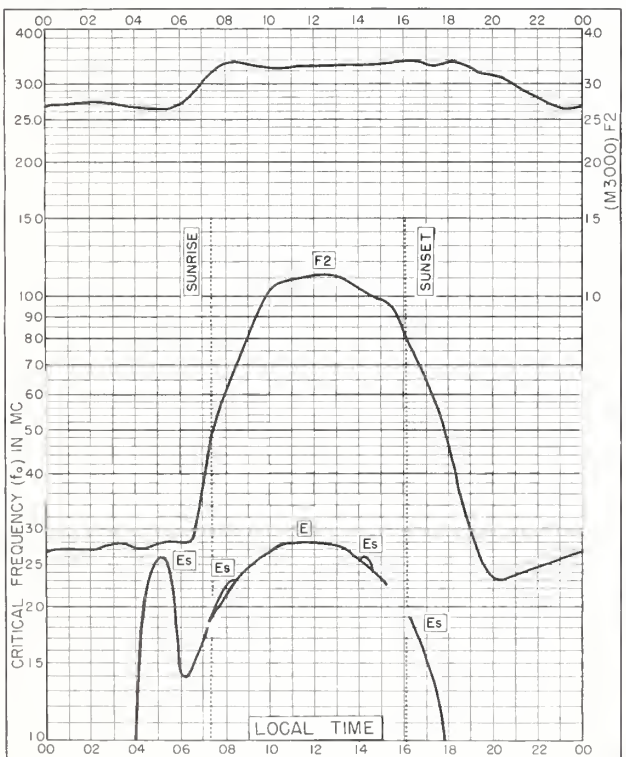


Fig. 23. ADAK, ALASKA
51.9°N, 176.6°W NOVEMBER 1960

NBS 503

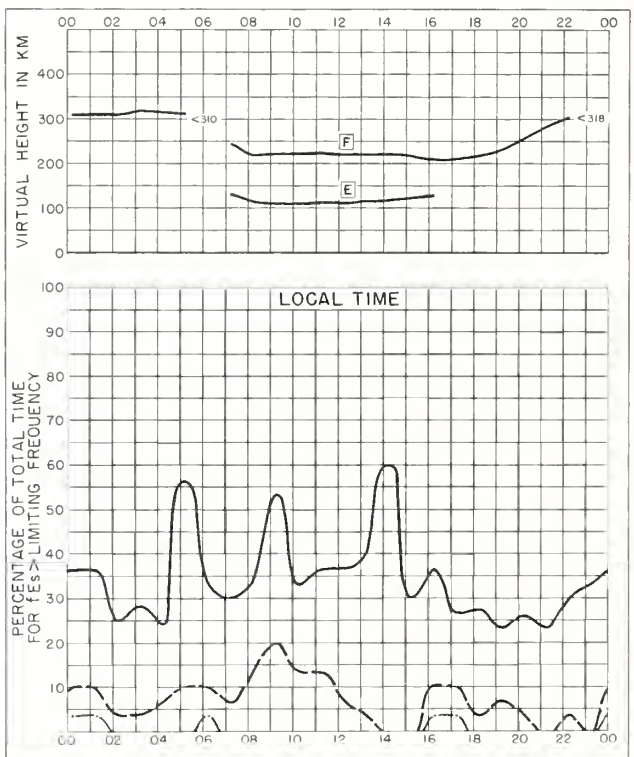


Fig. 24. ADAK, ALASKA NOVEMBER 1960

NBS 490

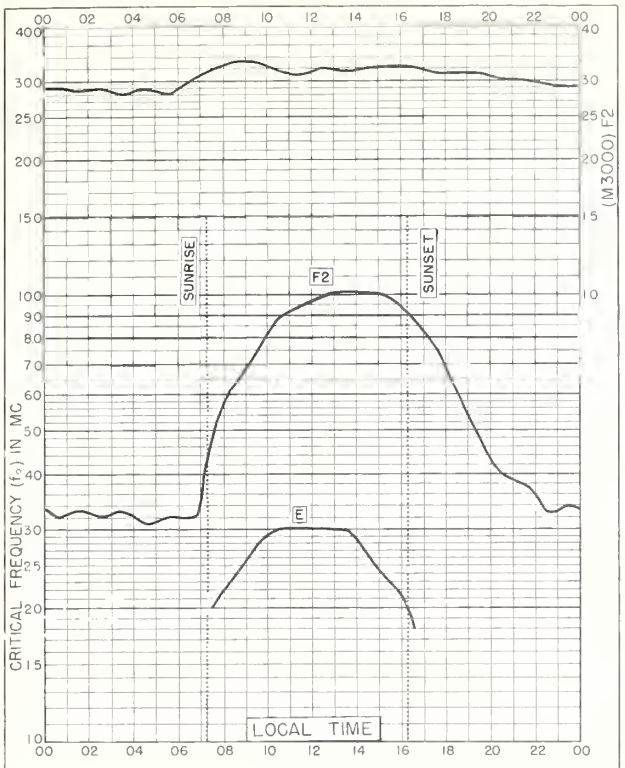


Fig. 25. WINNIPEG, CANADA
49.9°N, 97.4°W NOVEMBER 1960

NBS 503

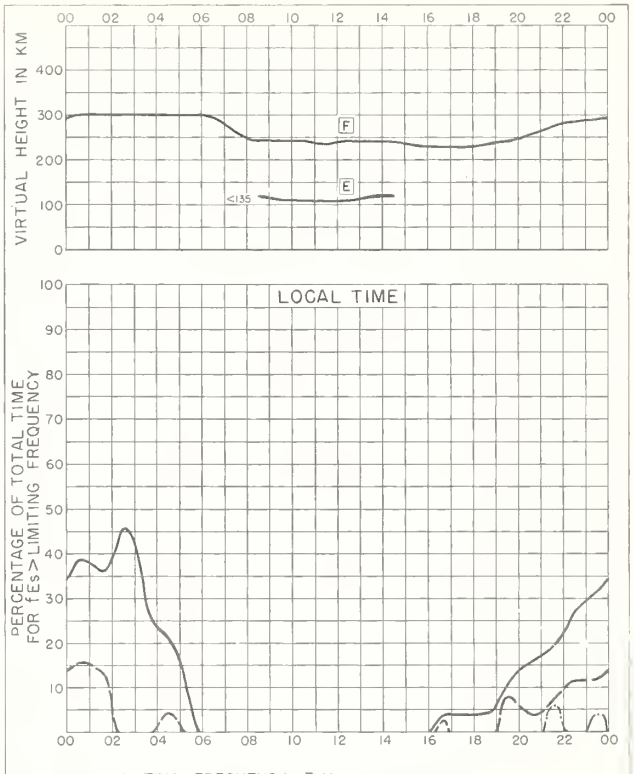


Fig. 26. WINNIPEG, CANADA NOVEMBER 1960

NBS 490

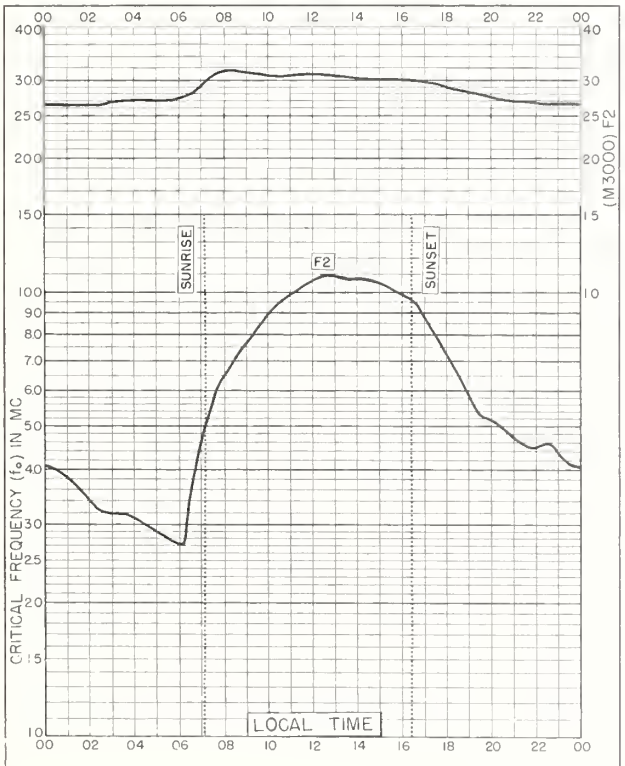


Fig. 27. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W NOVEMBER 1960

NBS 503

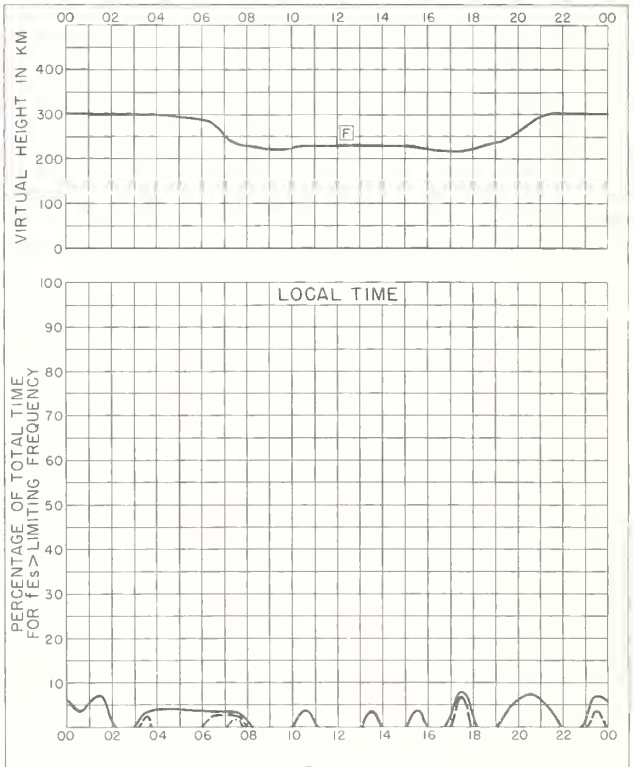


Fig. 28. ST. JOHN'S, NEWFOUNDLAND NOVEMBER 1960

NBS 490

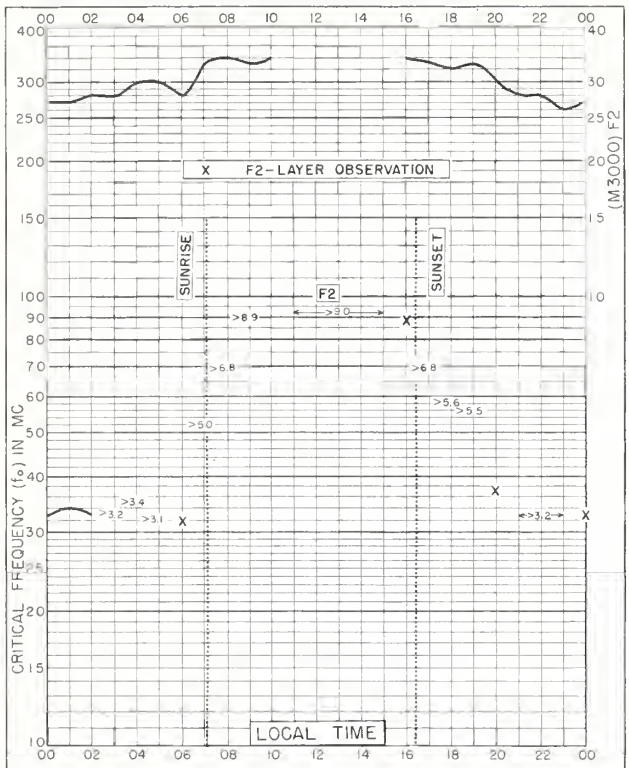


Fig. 29. GRAZ, AUSTRIA
47.1°N, 15.5°E NOVEMBER 1960

NBS 503

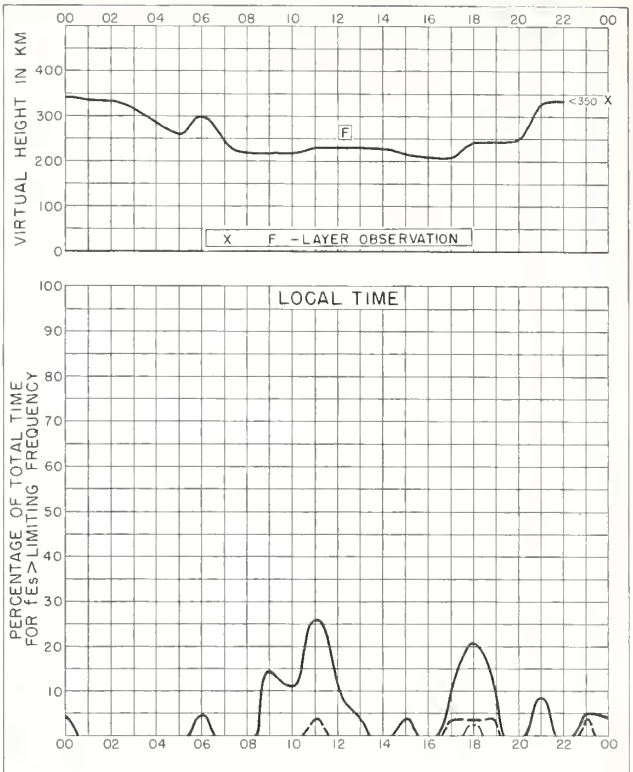


Fig. 30. GRAZ, AUSTRIA NOVEMBER 1960

NBS 490

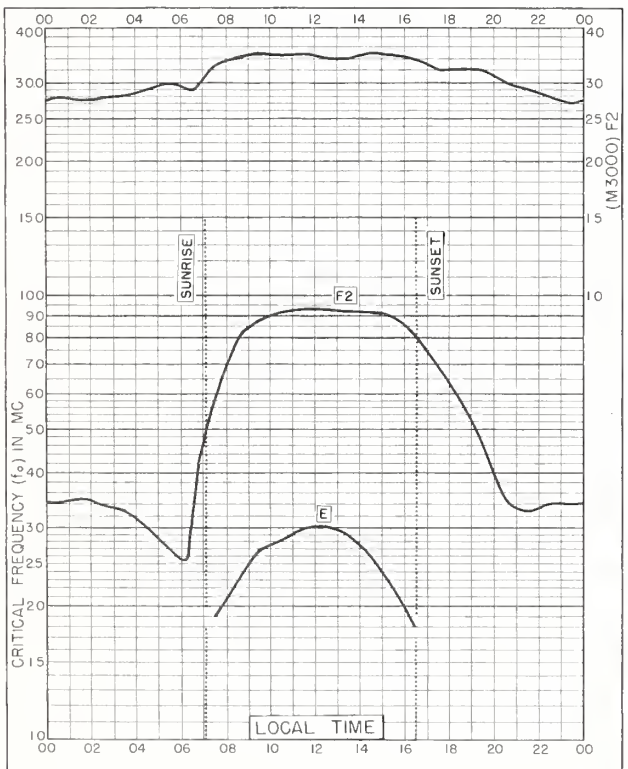


Fig. 31. SOTTENS, SWITZERLAND
46.6°N, 6.7°E NOVEMBER 1960

NBS 503

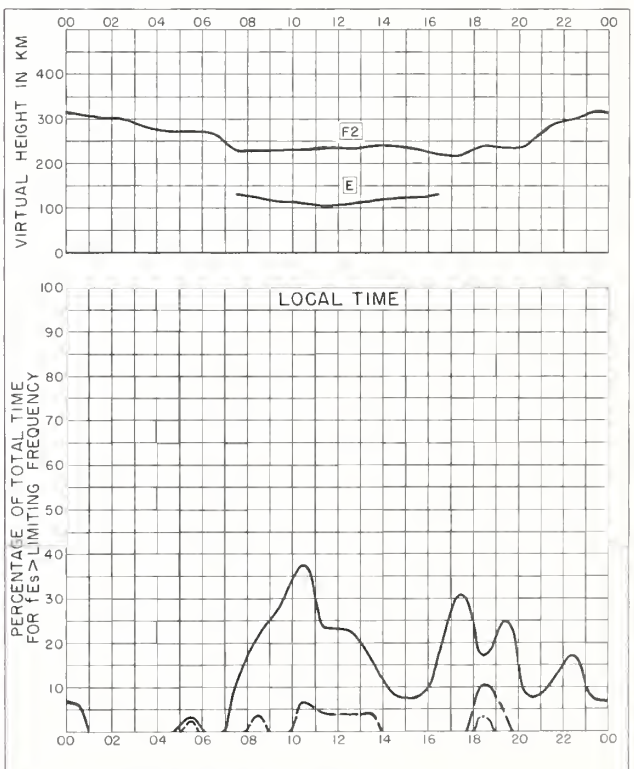


Fig. 32. SOTTENS, SWITZERLAND NOVEMBER 1960

NBS 490

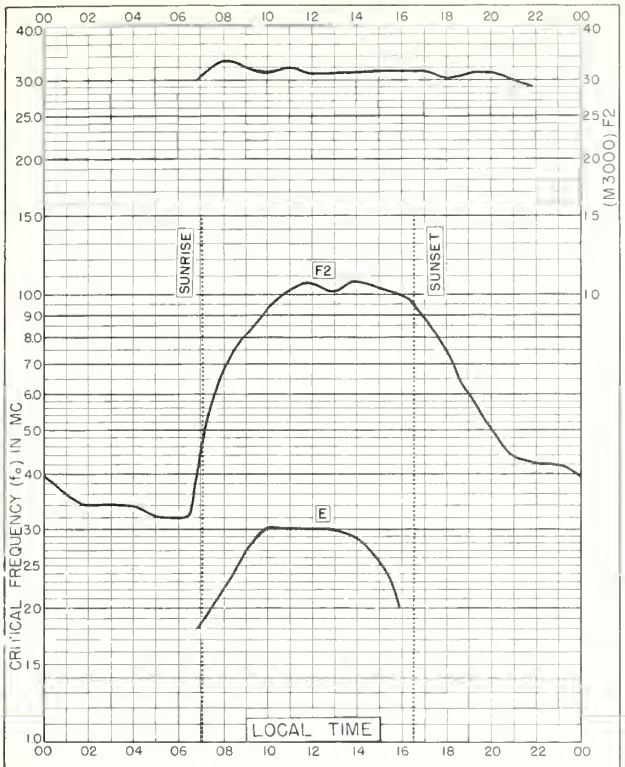


Fig. 33. OTTAWA, CANADA
45.4°N, 75.9° W NOVEMBER 1960

NBS 503

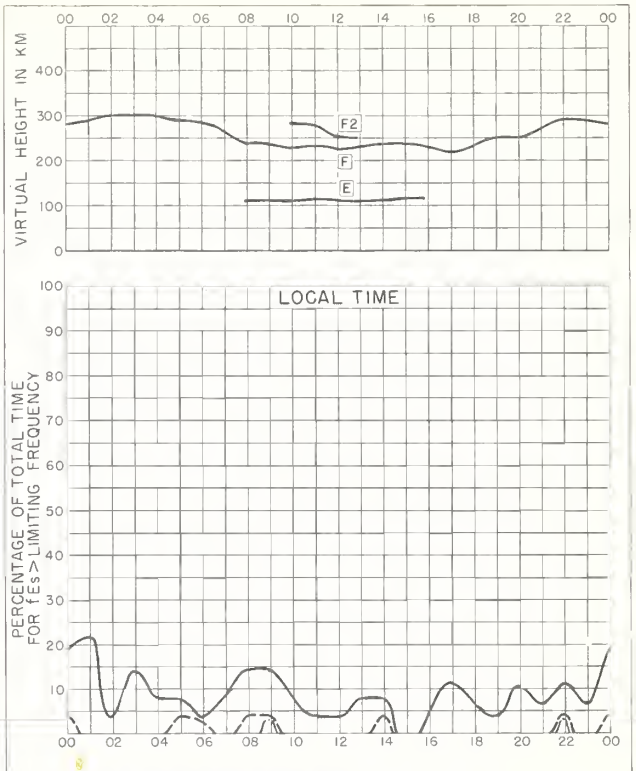


Fig. 34. OTTAWA, CANADA NOVEMBER 1960

NBS 490

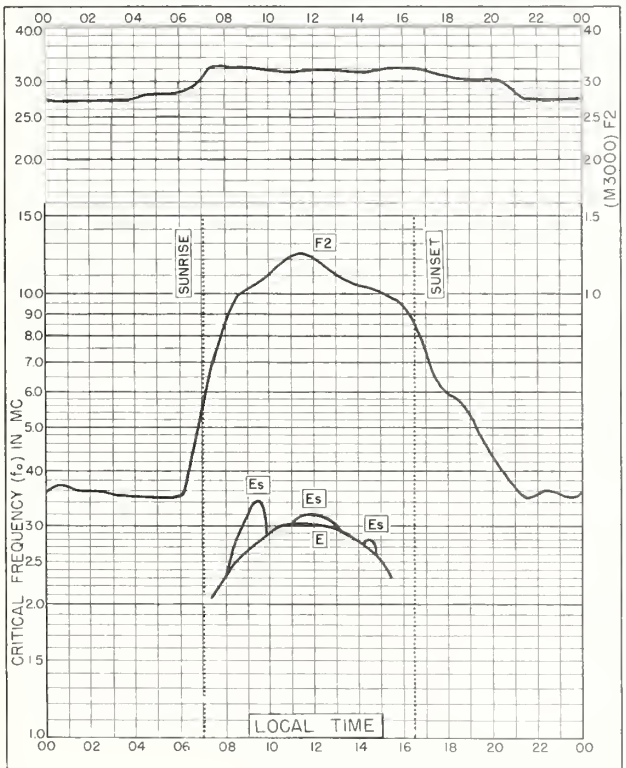


Fig. 35. WAKKANAI, JAPAN
45.4°N, 141.7°E NOVEMBER 1960

NBS 503

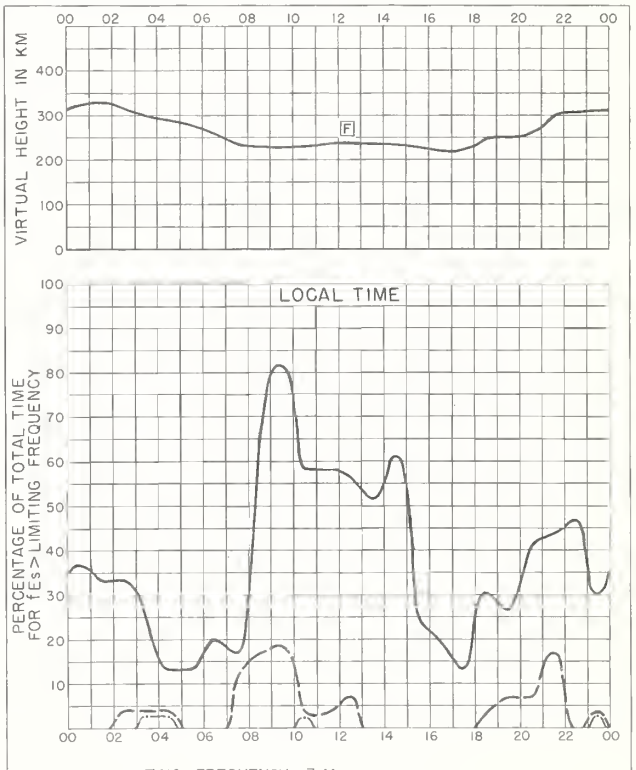


Fig. 36. WAKKANAI, JAPAN NOVEMBER 1960

NBS 490

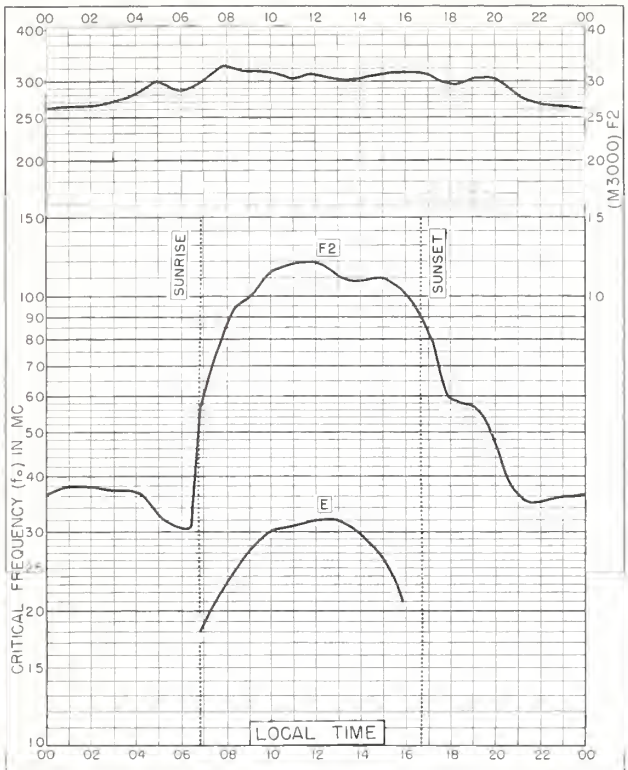


Fig. 37. ROME, ITALY
41.8°N, 12.5°E NOVEMBER 1960

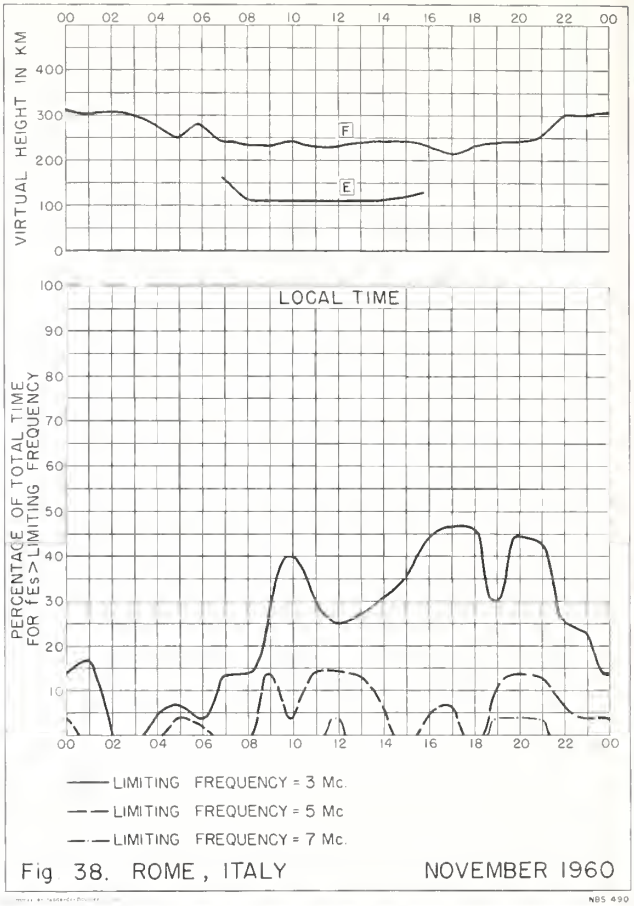


Fig 38. ROME, ITALY NOVEMBER 1960

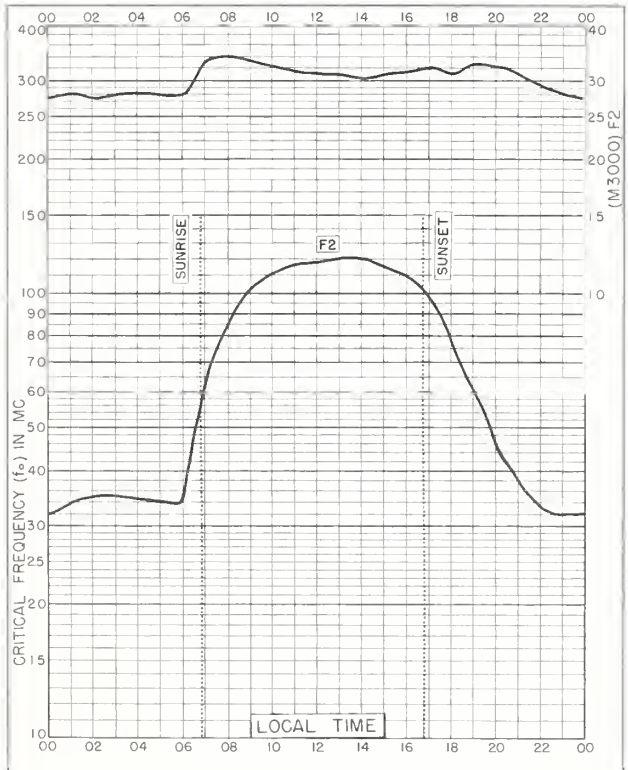


Fig. 39. BOULDER, COLORADO
40.0°N, 105.3°W NOVEMBER 1960

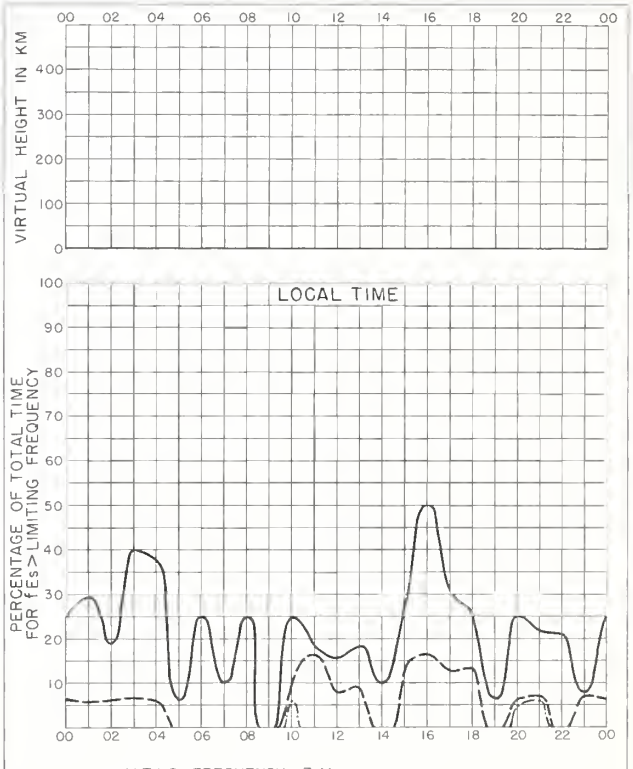


Fig. 40. BOULDER, COLORADO NOVEMBER 1960

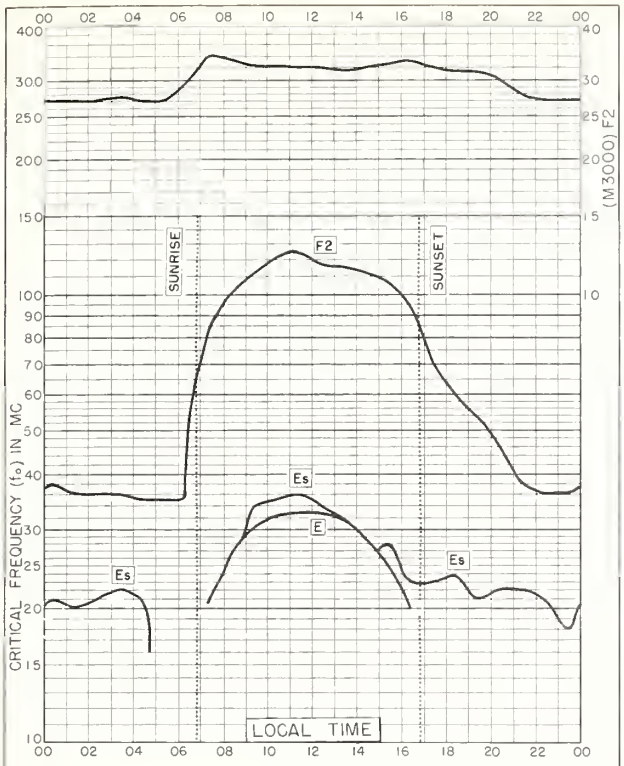


Fig. 41. AKITA, JAPAN
39.7°N, 140.1°E NOVEMBER 1960

NBS 503

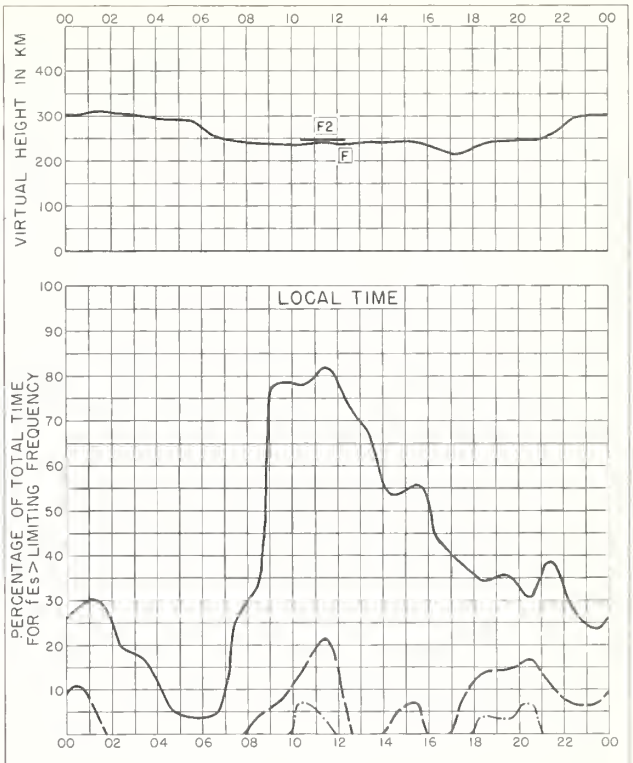


Fig. 42. AKITA, JAPAN NOVEMBER 1960

NBS 490

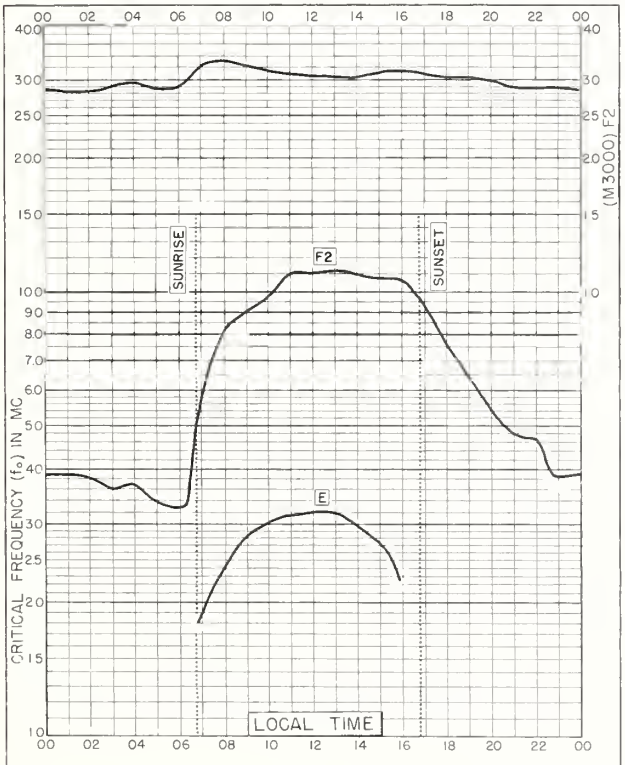


Fig. 43. WASHINGTON, D.C.
38.7°N, 77.1°W NOVEMBER 1960

NBS 503

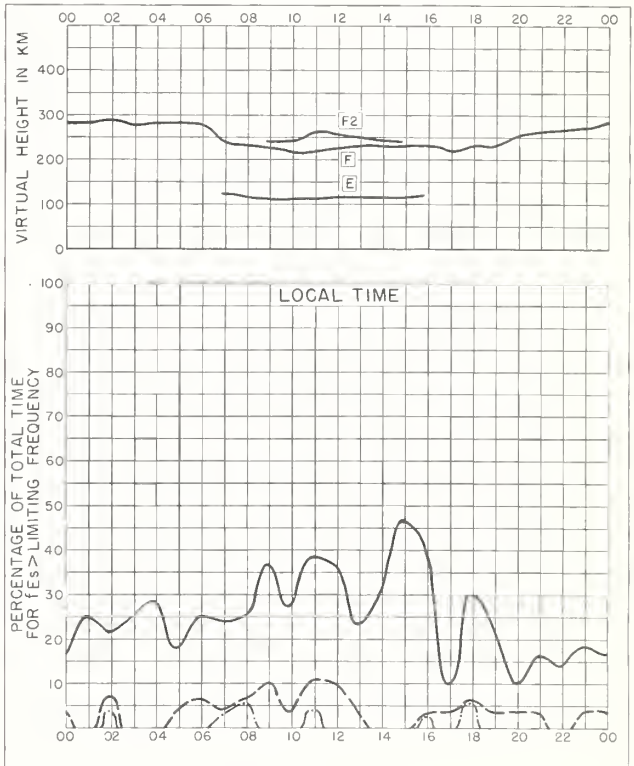


Fig. 44. WASHINGTON, D.C. NOVEMBER 1960

NBS 490

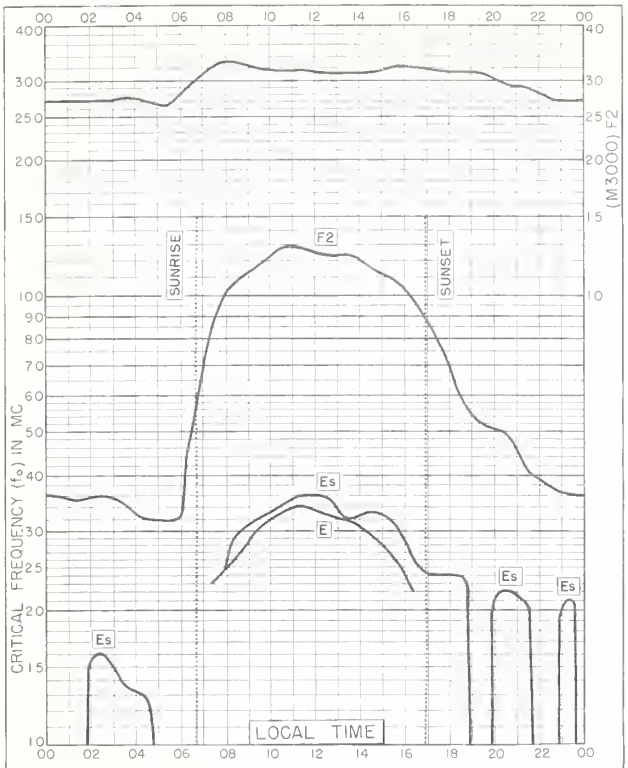


Fig. 45. TOKYO, JAPAN
35.7°N, 139.5°E NOVEMBER 1960

NBS 503

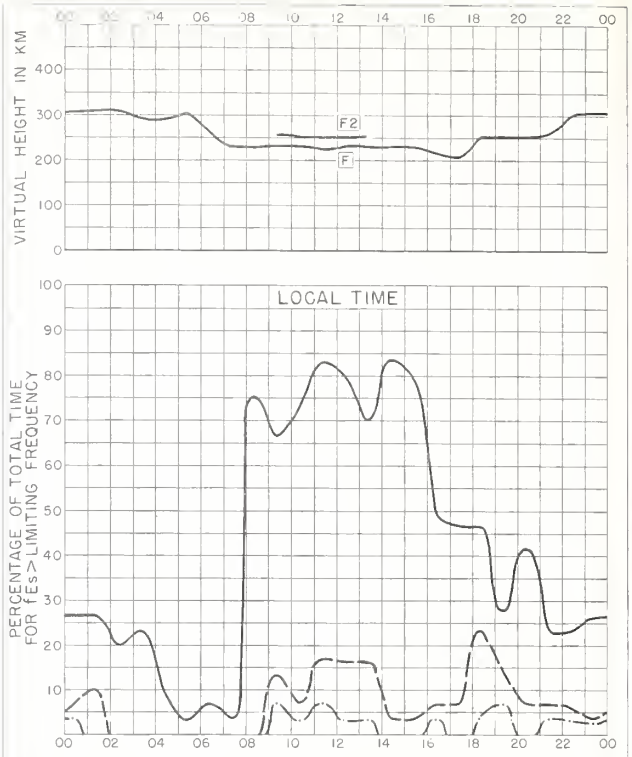


Fig. 46. TOKYO, JAPAN NOVEMBER 1960

NBS 490

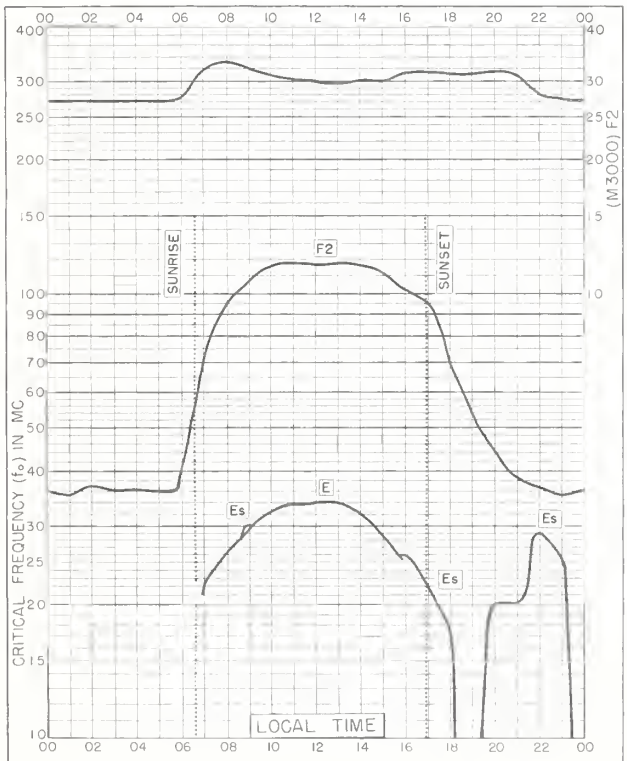


Fig. 47. WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W NOVEMBER 1960

NBS 503

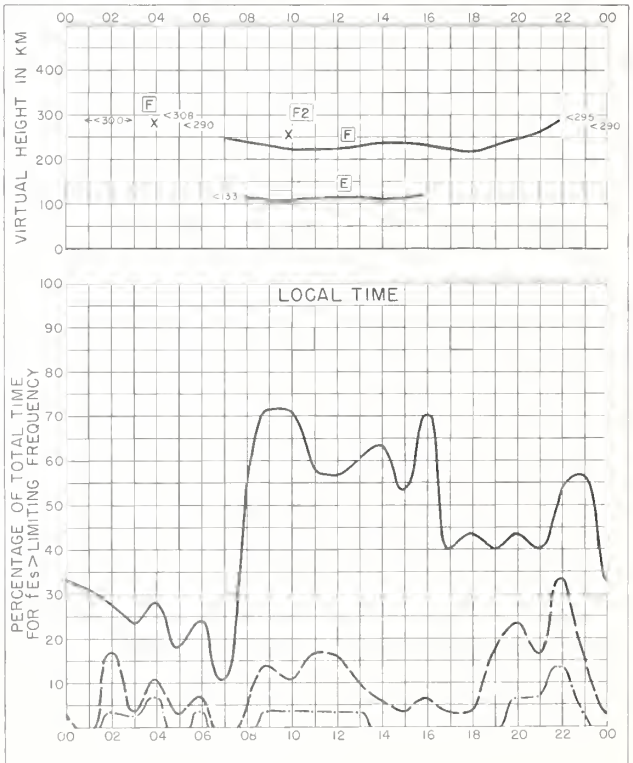


Fig. 48. WHITE SANDS, NEW MEXICO NOVEMBER 1960

NBS 490

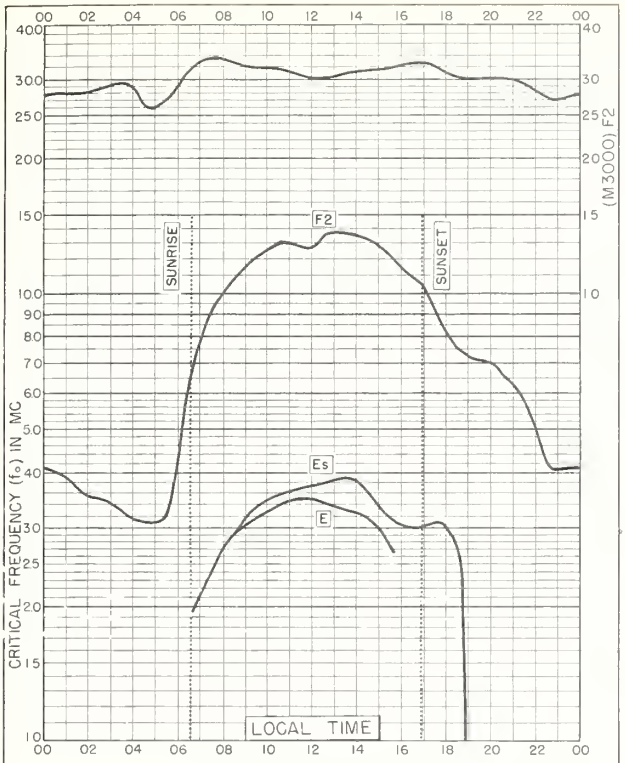


Fig. 49. YAMAGAWA, JAPAN
31.2°N, 130.6°E NOVEMBER 1960

NBS 503

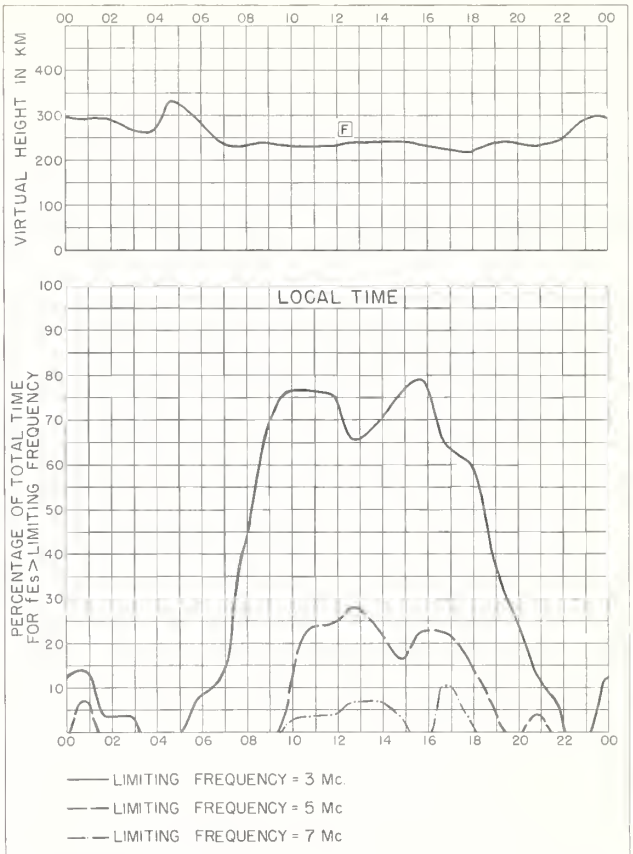


Fig. 50. YAMAGAWA, JAPAN NOVEMBER 1960

NBS 490

Fig. 51. EL CERILLO, MEXICO
19.3°N, 99.5°W NOVEMBER 1960

NBS 503

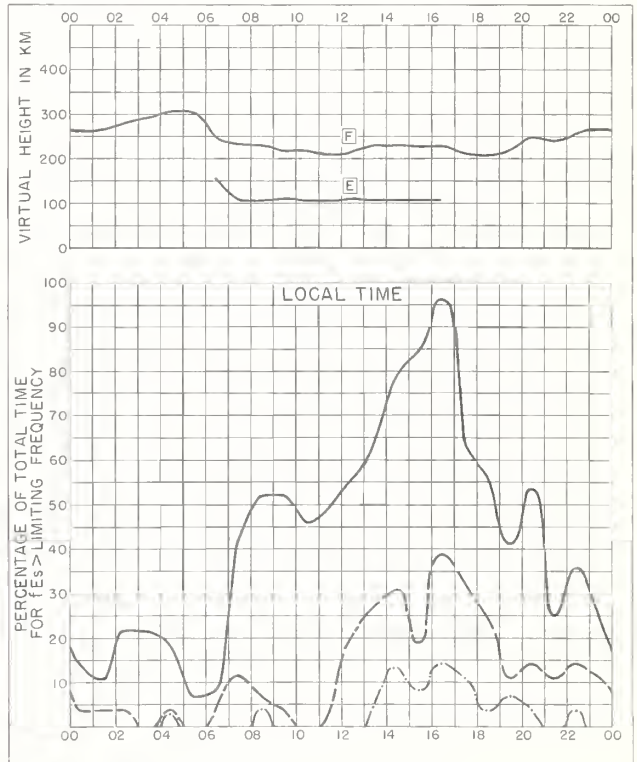


Fig. 52. EL CERILLO, MEXICO NOVEMBER 1960

NBS 490

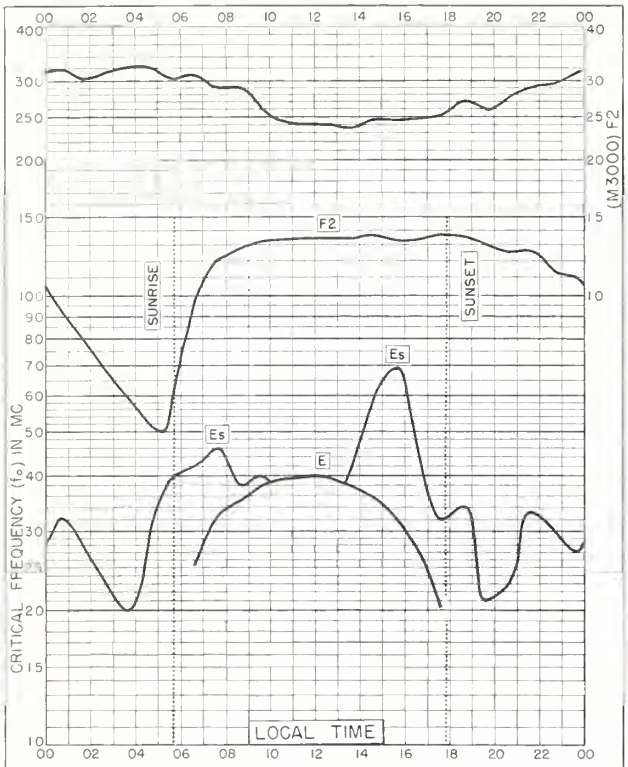


Fig. 53. TALARA, PERU
4.6°S, 81.3°W NOVEMBER 1960

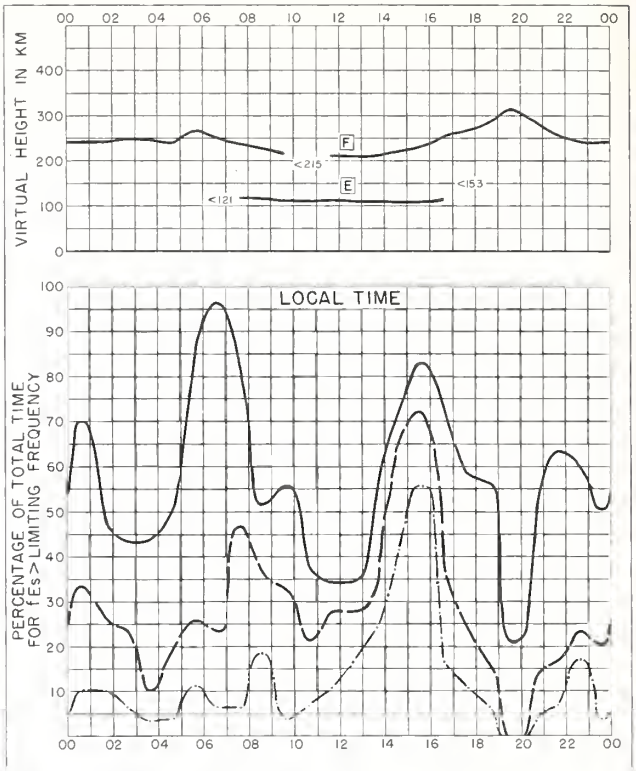


Fig. 54. TALARA, PERU NOVEMBER 1960

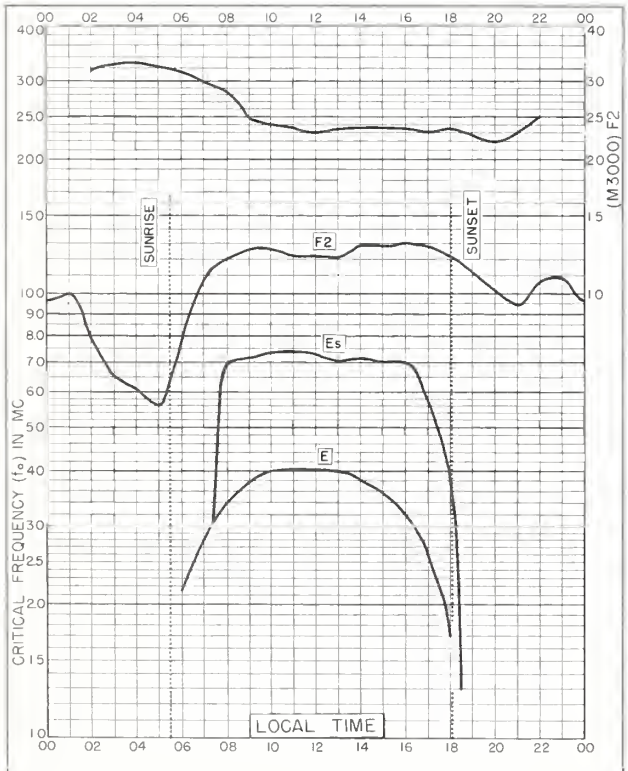


Fig. 55. HUANCAYO, PERU
12.0°S, 75.3°W NOVEMBER 1960

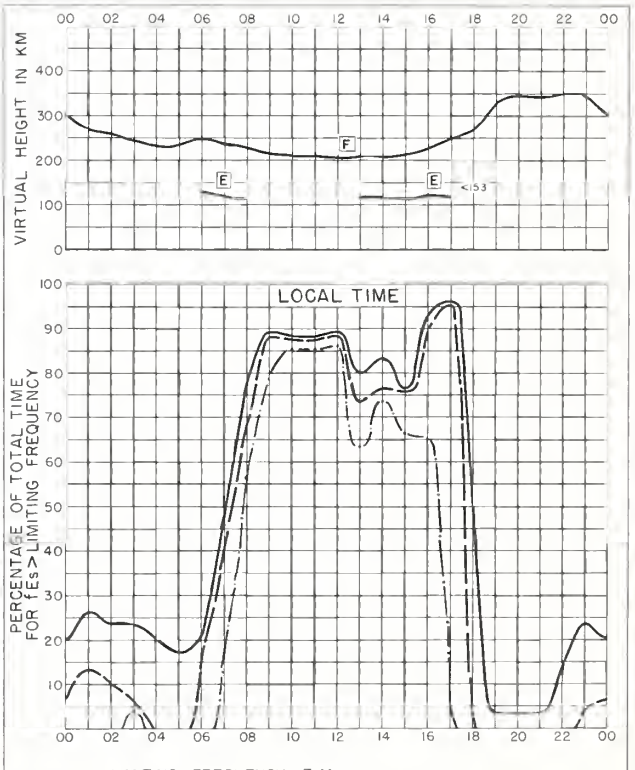


Fig. 56. HUANCAYO, PERU NOVEMBER 1960

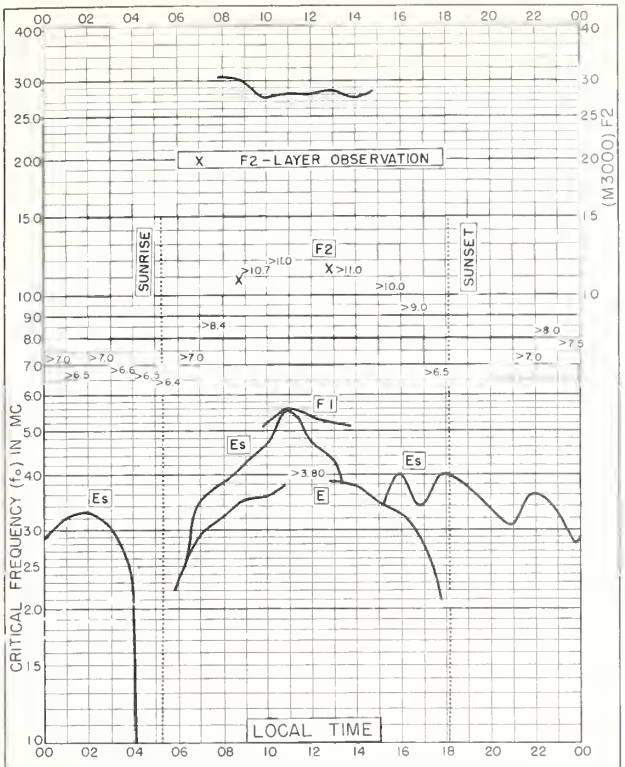


Fig. 57. TOWNSVILLE, AUSTRALIA
19.3°S, 146.7°E NOVEMBER 1960

NBS 503

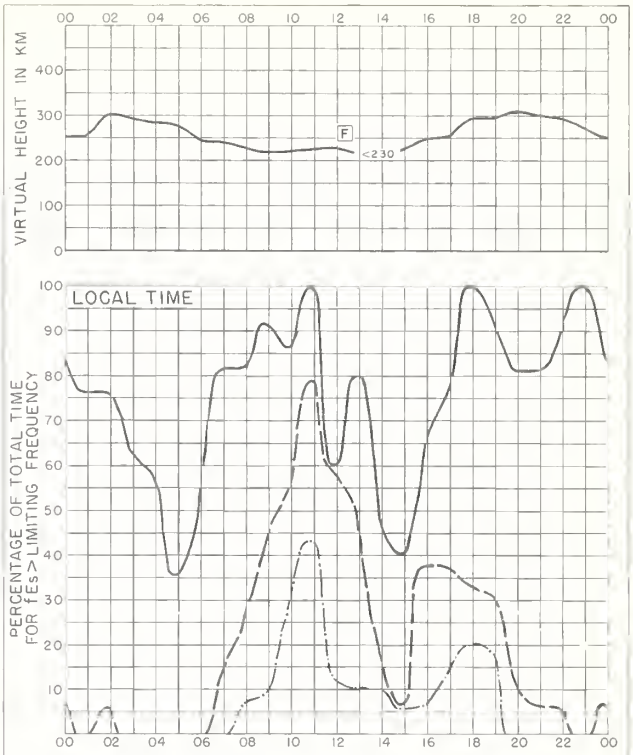


Fig. 58. TOWNSVILLE, AUSTRALIA NOVEMBER 1960

NBS 490

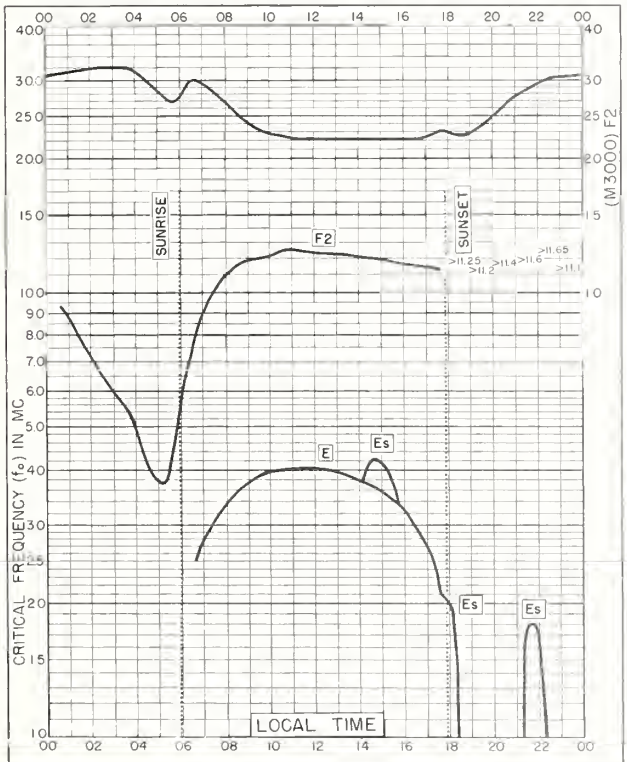


Fig. 59. TALARA, PERU
4.6°S, 81.3°W SEPTEMBER 1960

NBS 503

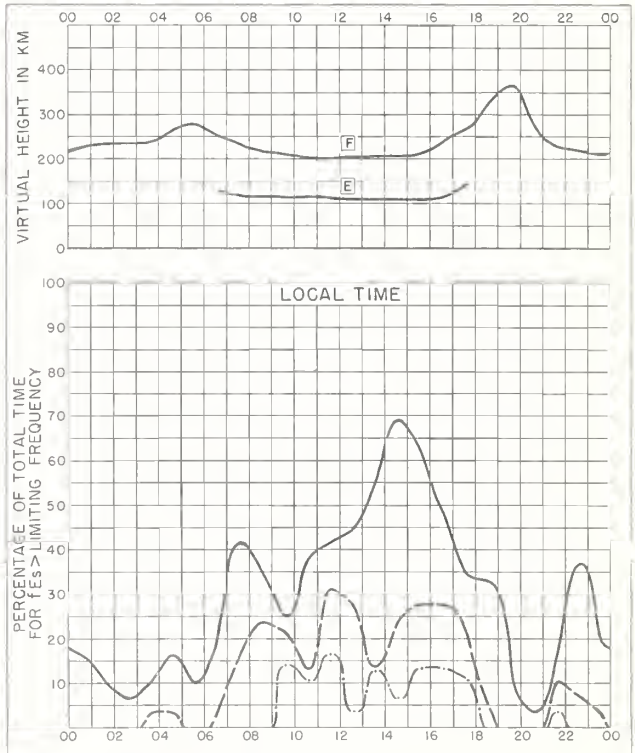


Fig. 60. TALARA, PERU SEPTEMBER 1960

NBS 490

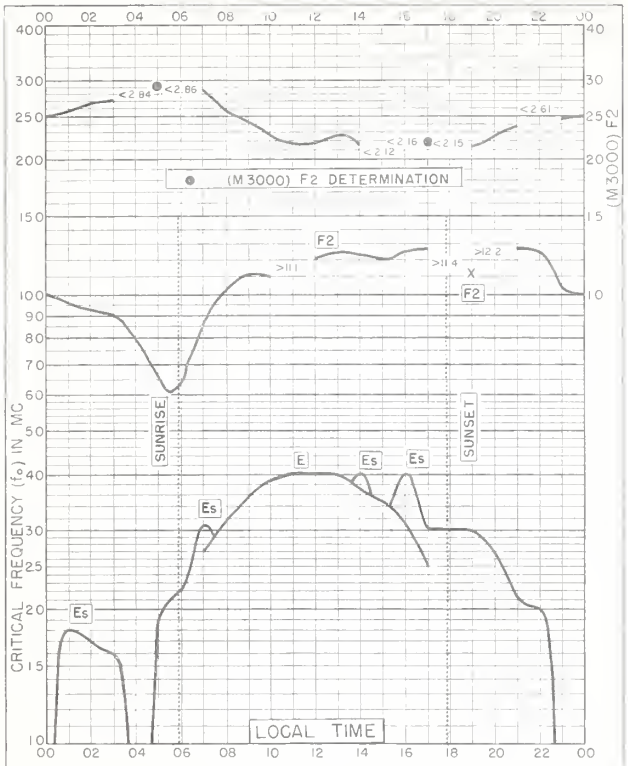
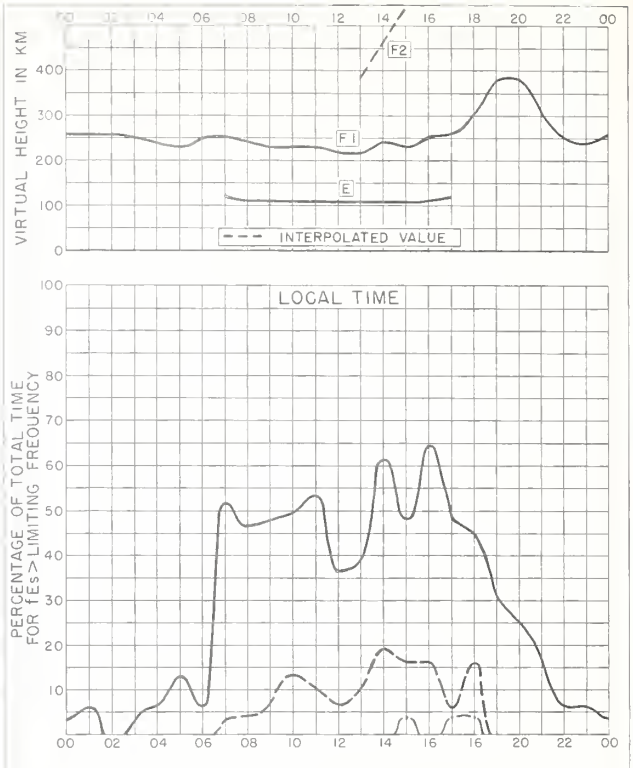


Fig. 61. BUNIA, BELGIAN CONGO
1.5°N, 30.2°E DECEMBER 1959

NBS 503



DECEMBER 1959

Fig. 62. BUNIA, BELGIAN CONGO

NBS 490

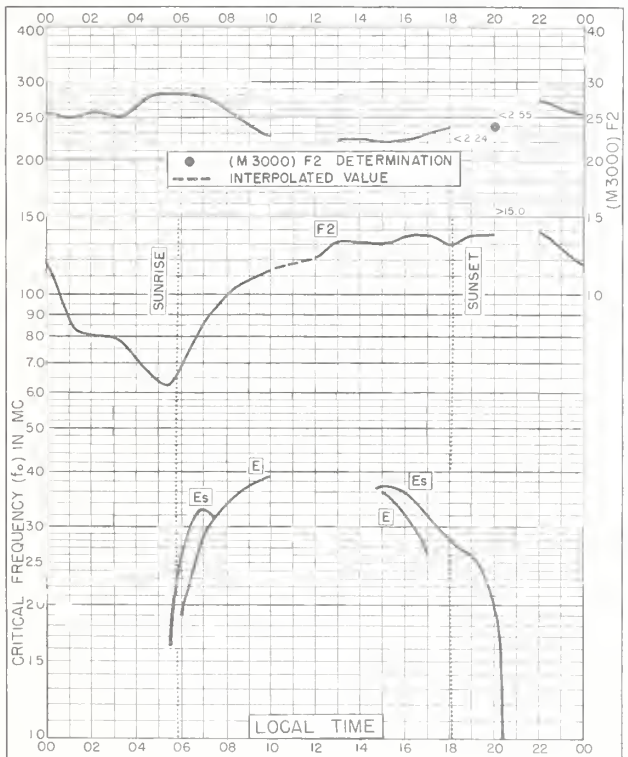
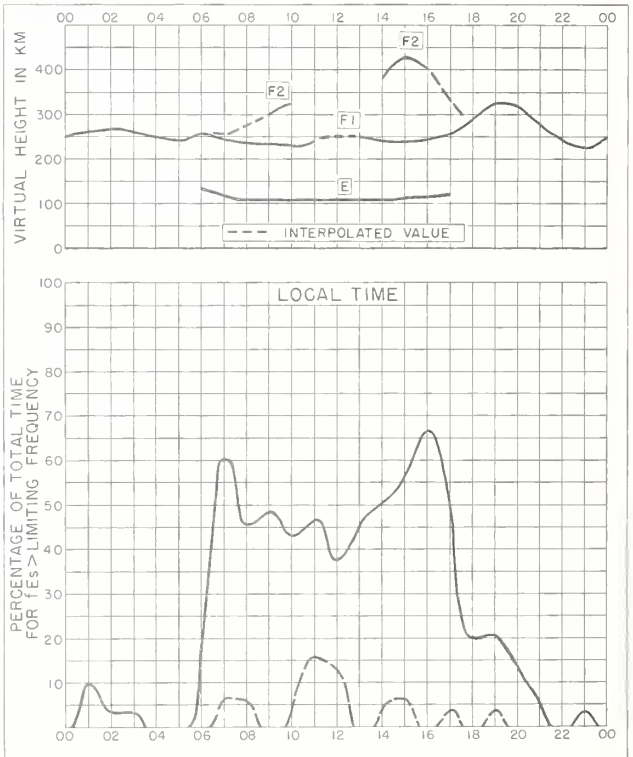


Fig. 63. LEOPOLDVILLE, BELGIAN CONGO
4.4°S, 15.2°E DECEMBER 1959

NBS 503



DECEMBER 1959

Fig. 64. LEOPOLDVILLE, BELGIAN CONGO

NBS 490

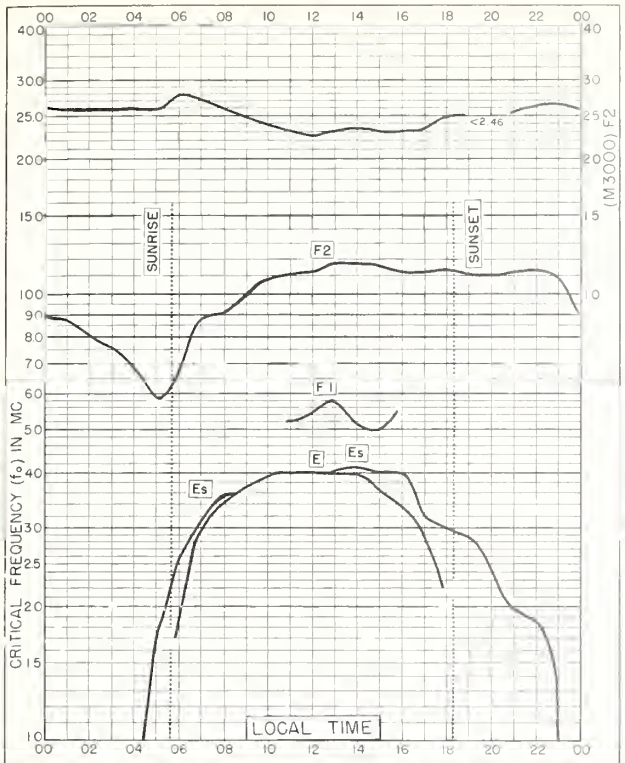
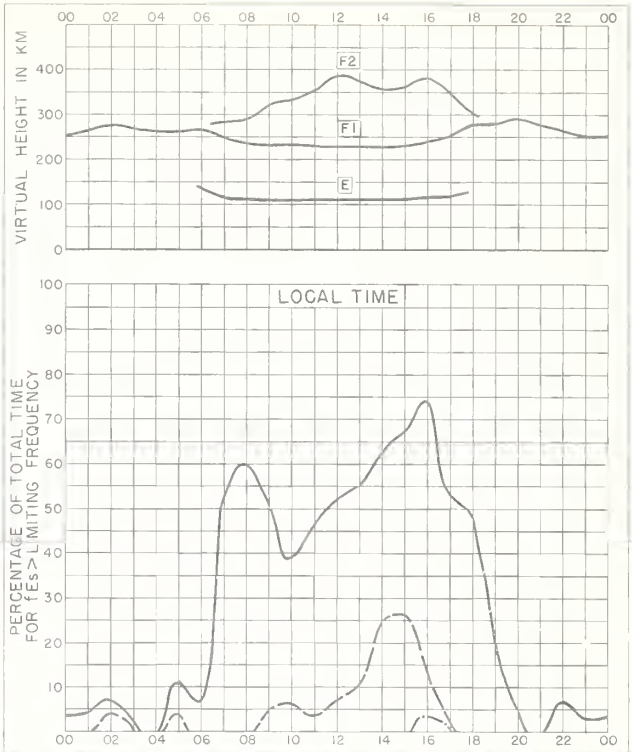


Fig. 65. ELISABETHVILLE, BELGIAN CONGO
11.6°S, 27.5°E DECEMBER 1959

NBS 503



DECEMBER 1959

Fig. 66. ELISABETHVILLE, BELGIAN CONGO

NBS 490

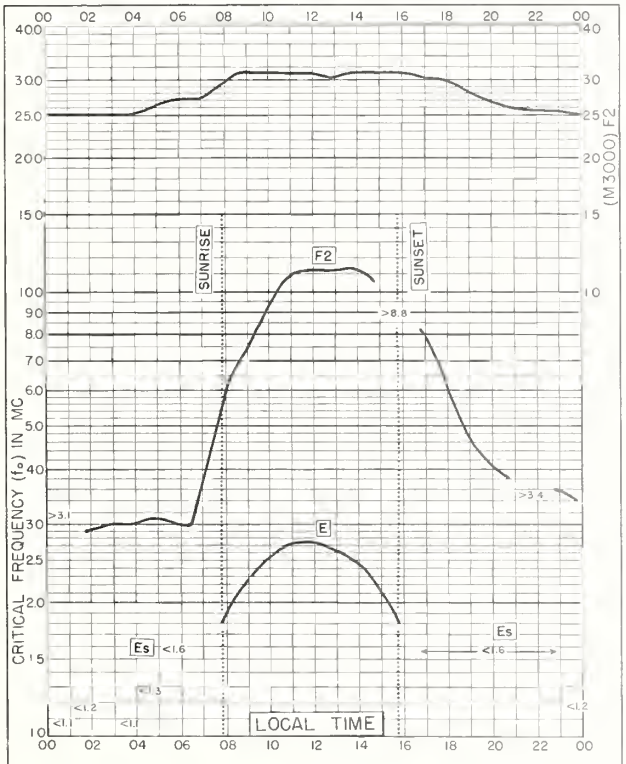


Fig. 67. INVERNESS, SCOTLAND
57.4°N, 4.2°W NOVEMBER 1959

NBS 503

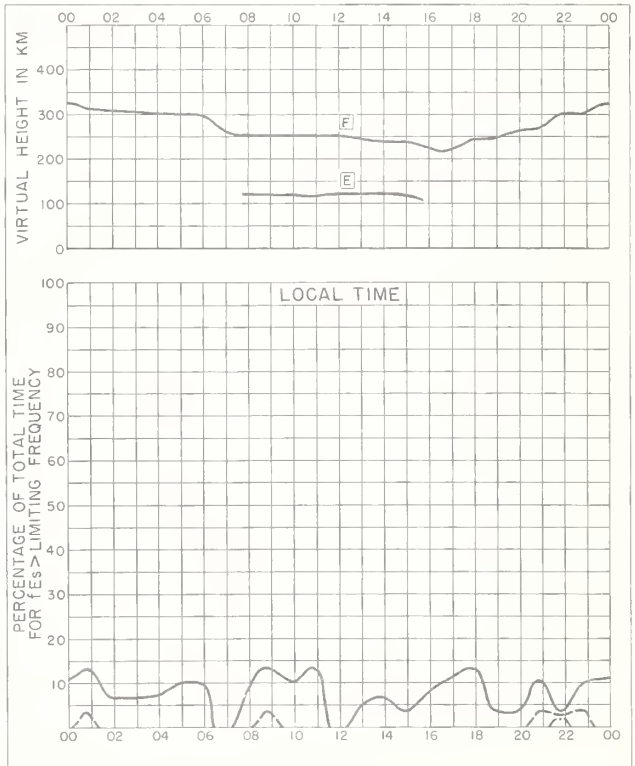


Fig. 68. INVERNESS, SCOTLAND NOVEMBER 1959

NBS 490

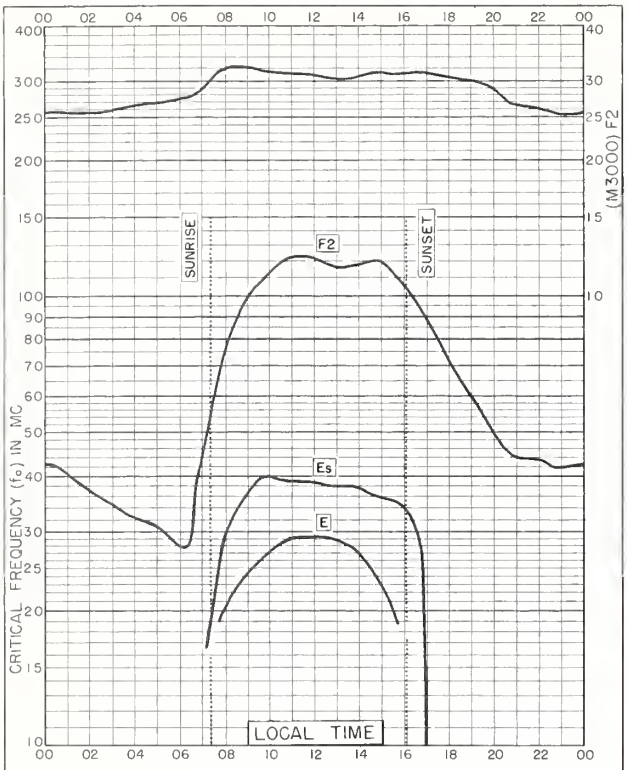


Fig. 69. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E NOVEMBER 1959

NBS 503

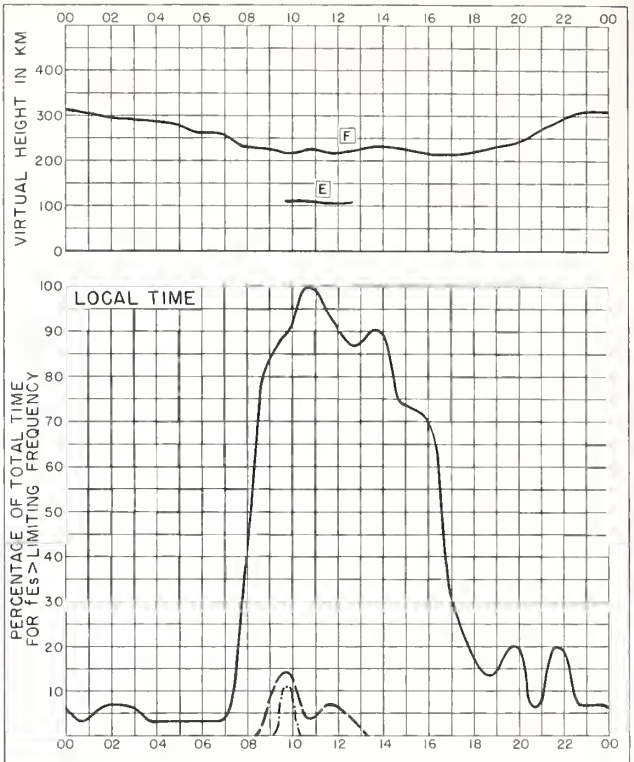


Fig. 70. LINDAU/HARZ, GERMANY NOVEMBER 1959

NBS 490

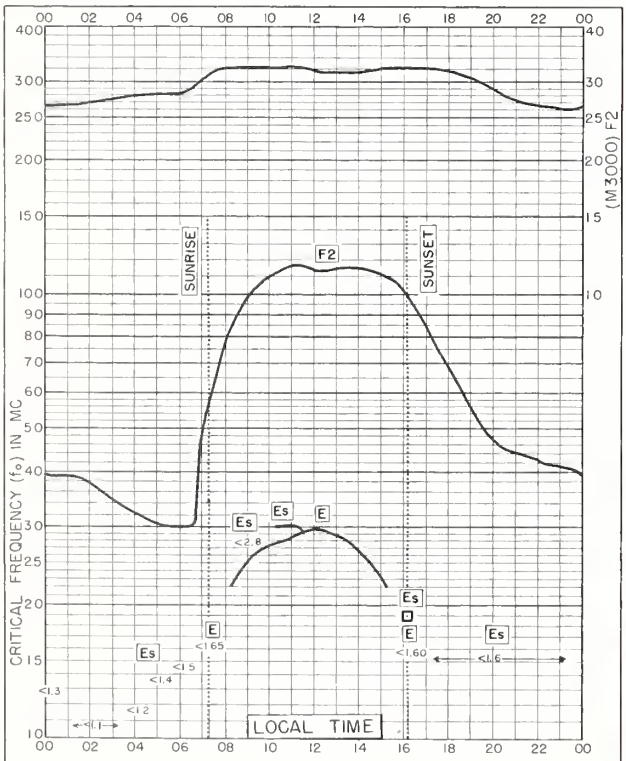


Fig. 71. DOURBES, BELGIUM
50.1°N, 4.6°E NOVEMBER 1959

NBS 503

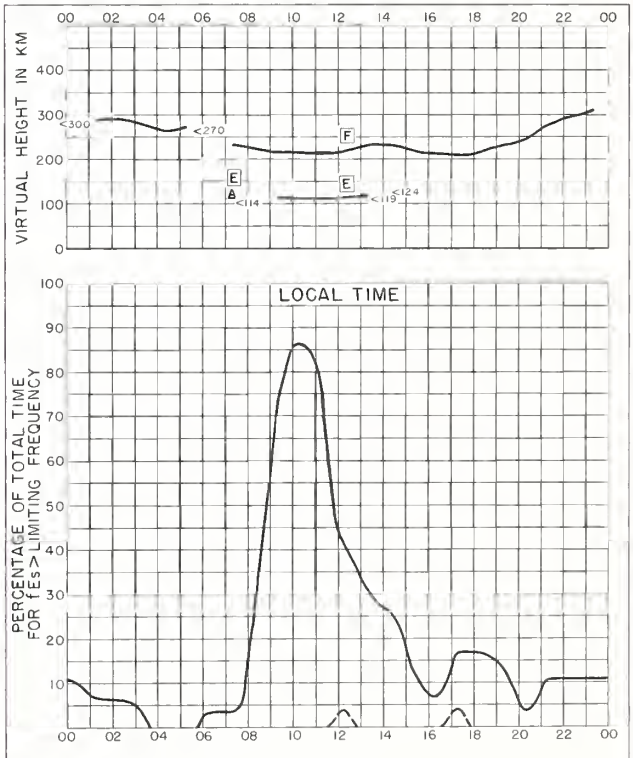


Fig. 72. DOURBES, BELGIUM NOVEMBER 1959

NBS 490

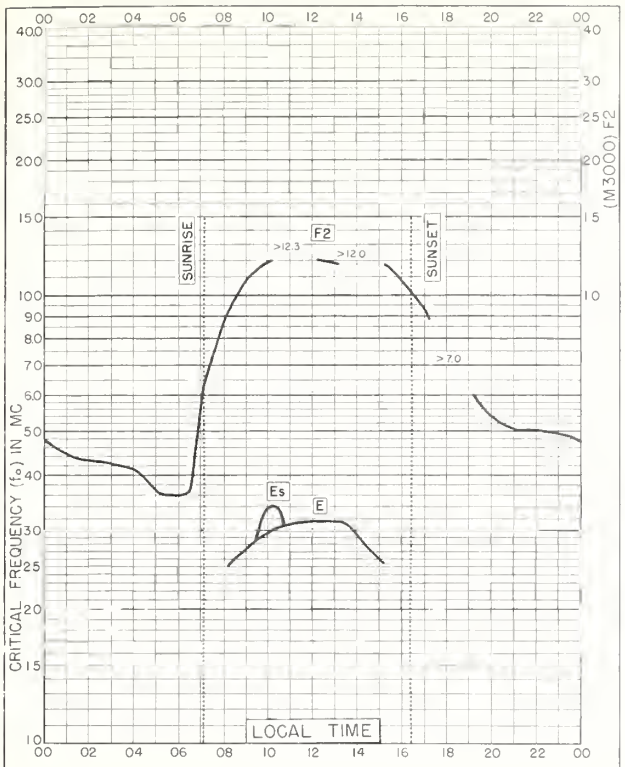


Fig. 73. GARCHY, FRANCE
47.3°N, 3.1°E NOVEMBER 1959

NBS 503

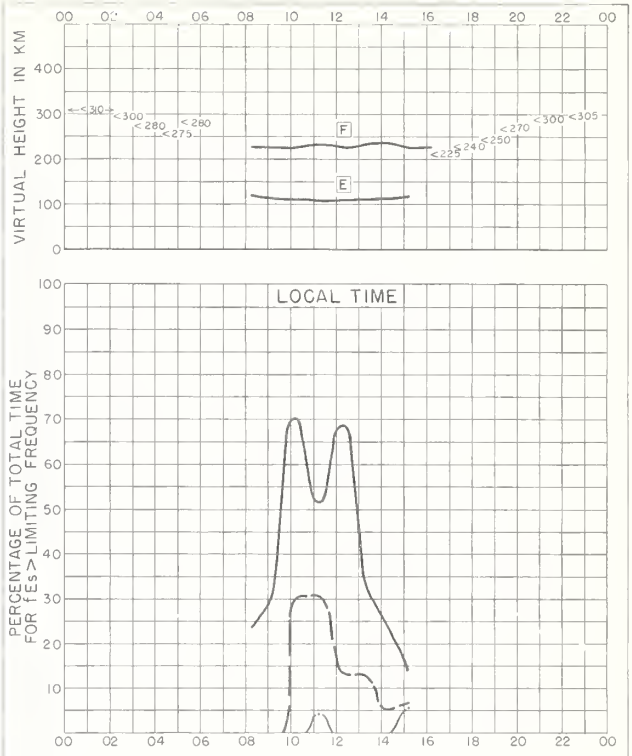


Fig. 74. GARCHY, FRANCE NOVEMBER 1959

NBS 490

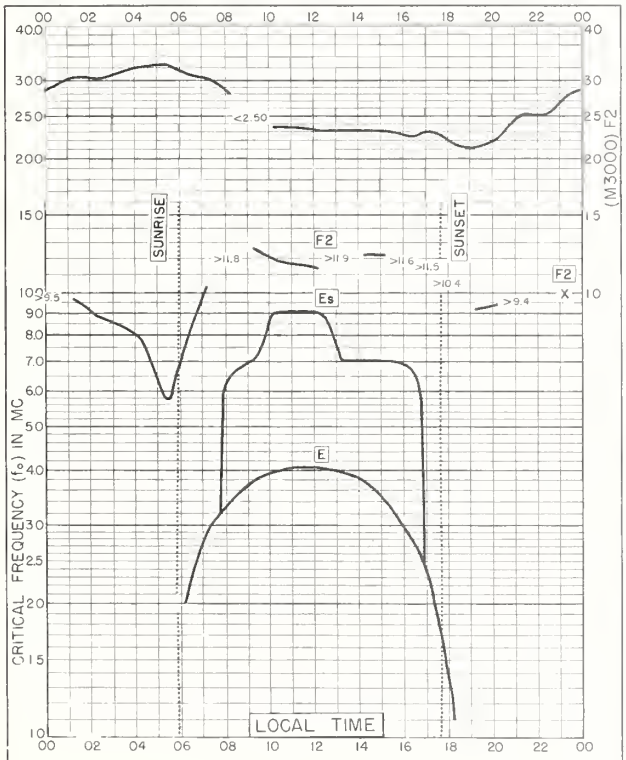


Fig. 75. IBADAN, NIGERIA
7.4°N, 3.9°E NOVEMBER 1959

NBS 503

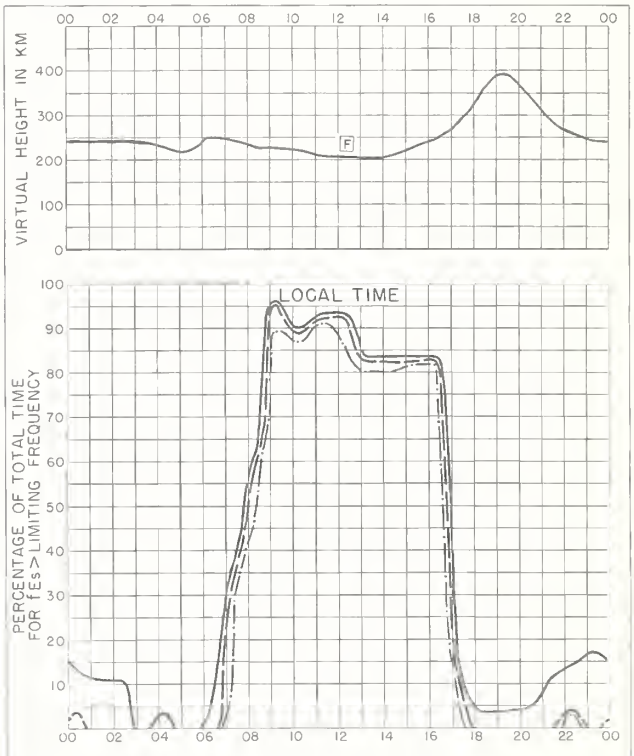


Fig. 76. IBADAN, NIGERIA NOVEMBER 1959

NBS 490

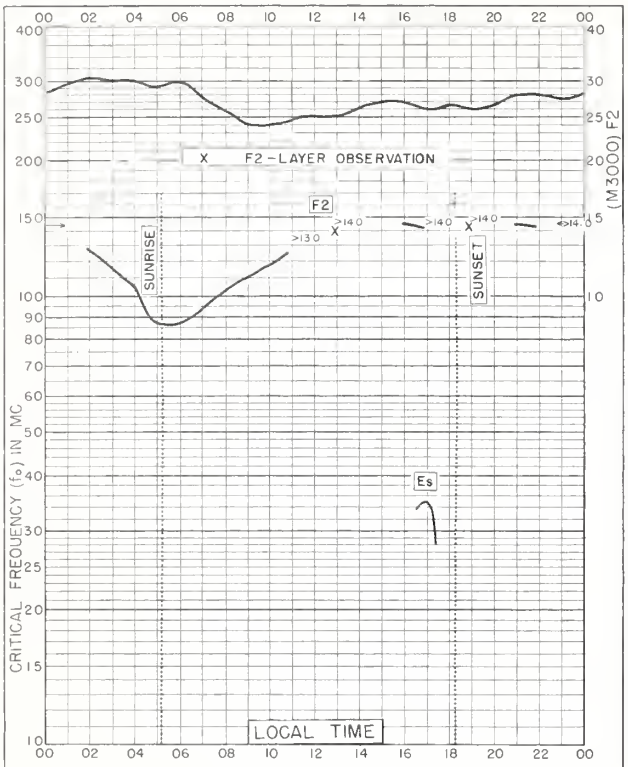


Fig. 77. SAO PAULO, BRAZIL
23.5°S, 46.5°W NOVEMBER 1959

NBS 503

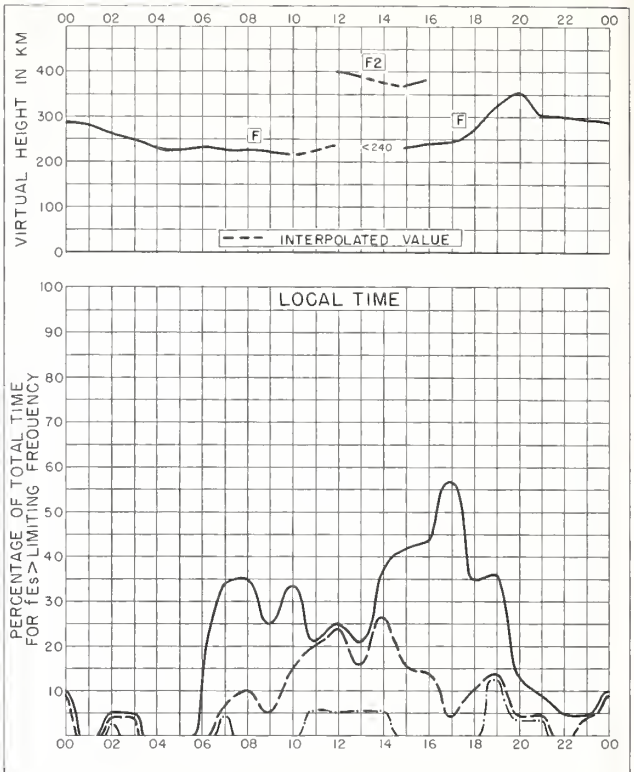


Fig. 78 SAO PAULO, BRAZIL NOVEMBER 1959

NBS 490

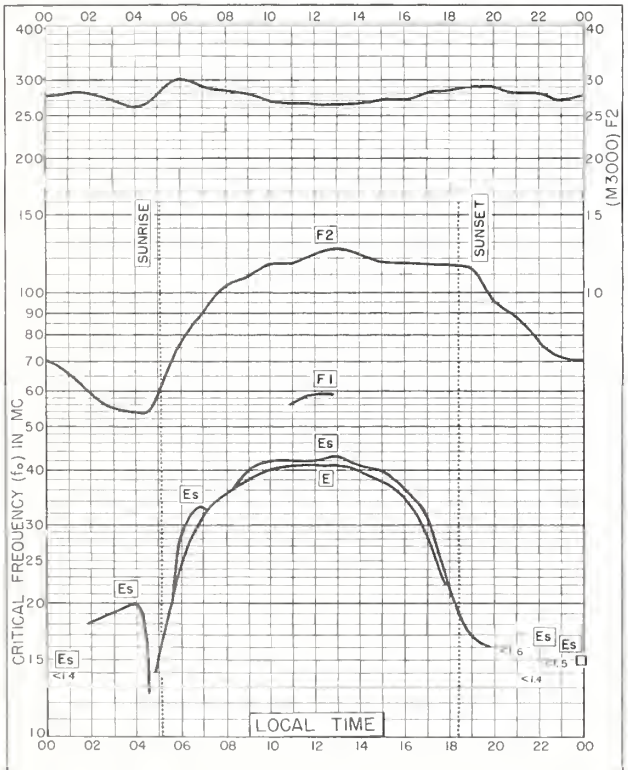


Fig. 79. JOHANNESBURG, UNION OF S. AFRICA
26.1°S, 28.1°E NOVEMBER 1959

NBS 503

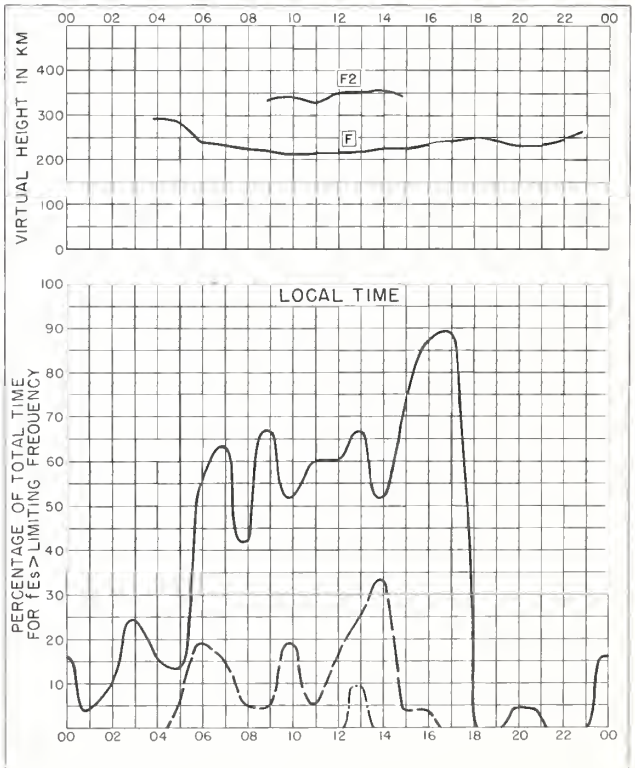


Fig. 80. JOHANNESBURG, UNION OF S. AFRICA NOVEMBER 1959

NBS 490

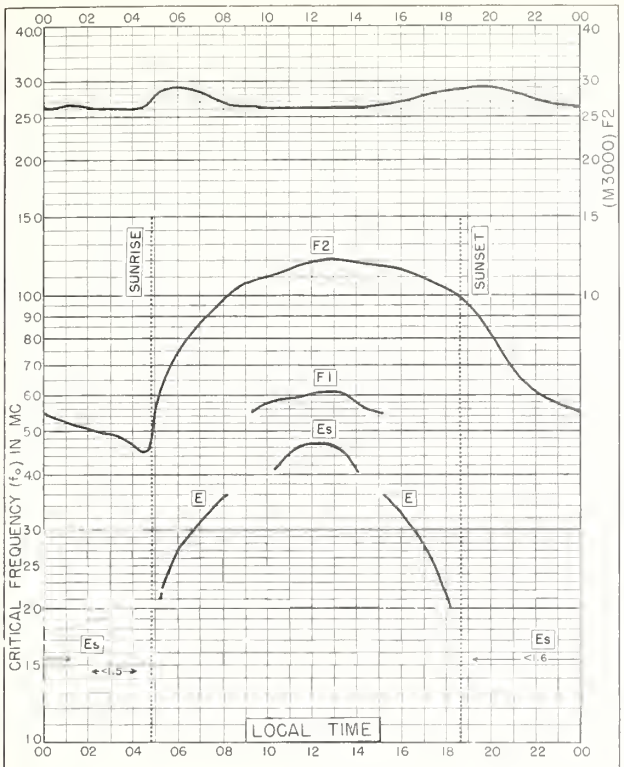
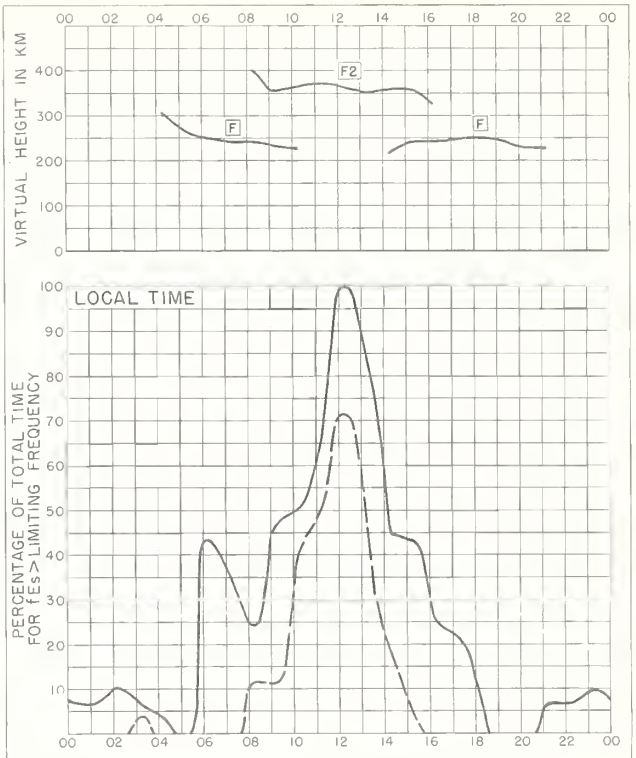


Fig. 81. CAPETOWN, UNION OF S. AFRICA
34.1°S, 18.3°E NOVEMBER 1959



NOVEMBER 1959

Fig. 82. CAPETOWN, UNION OF S. AFRICA

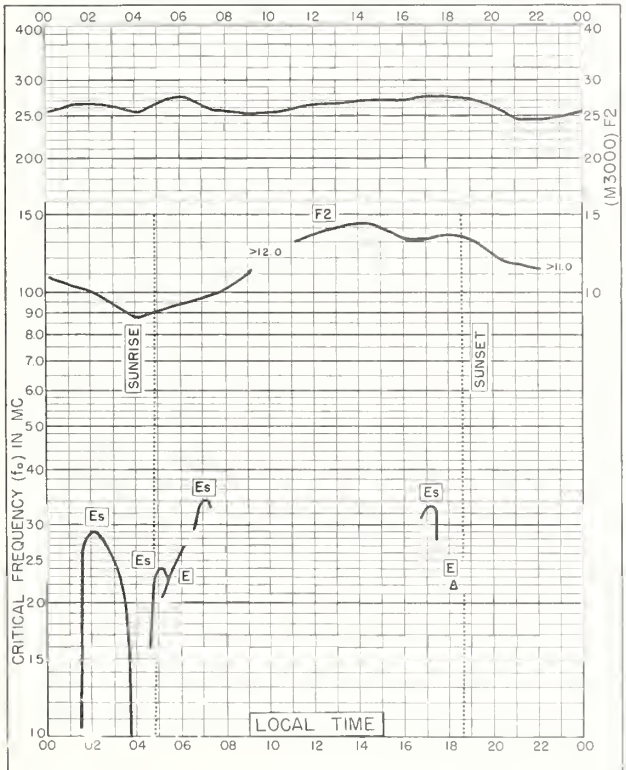
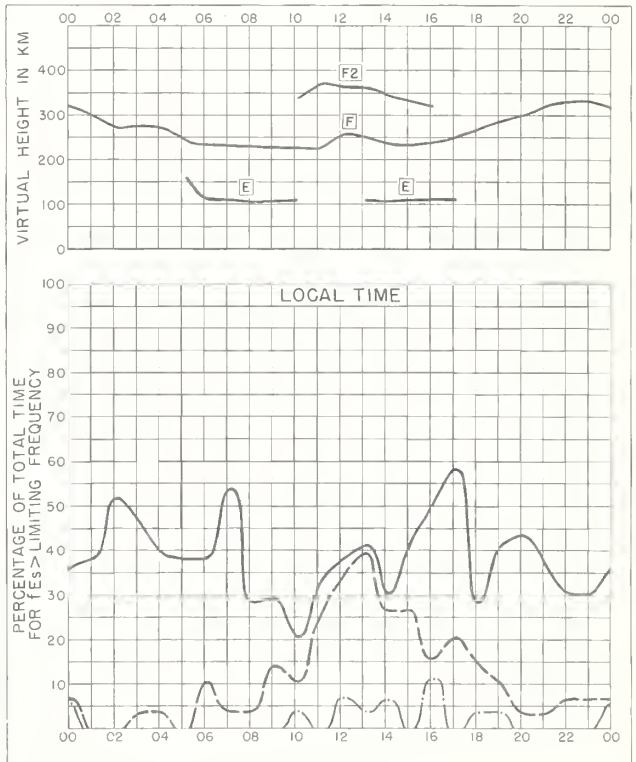


Fig. 83. BUENOS AIRES, ARGENTINA
34.5°S, 58.5° W NOVEMBER 1959



NOVEMBER 1959

Fig. 84. BUENOS AIRES, ARGENTINA

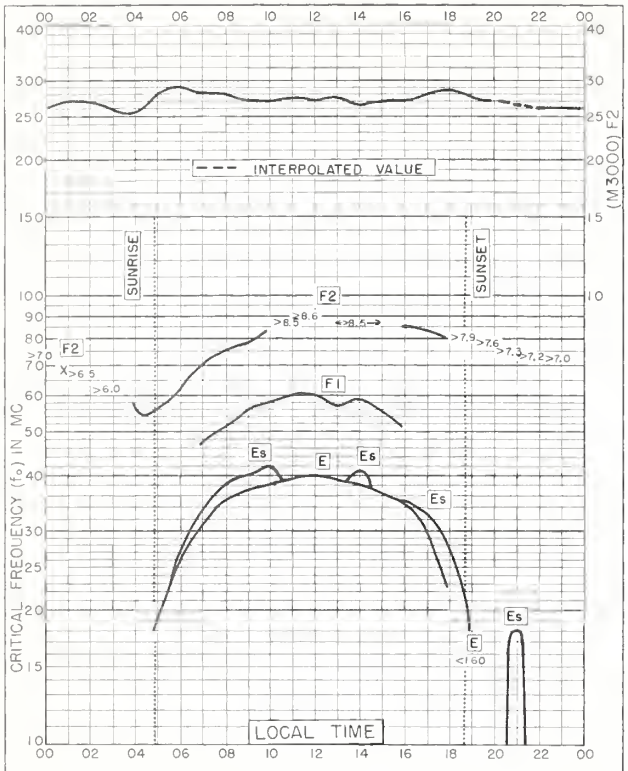


Fig. 85. CANBERRA, AUSTRALIA
35.3°S, 149.0°E NOVEMBER 1959

NBS 503

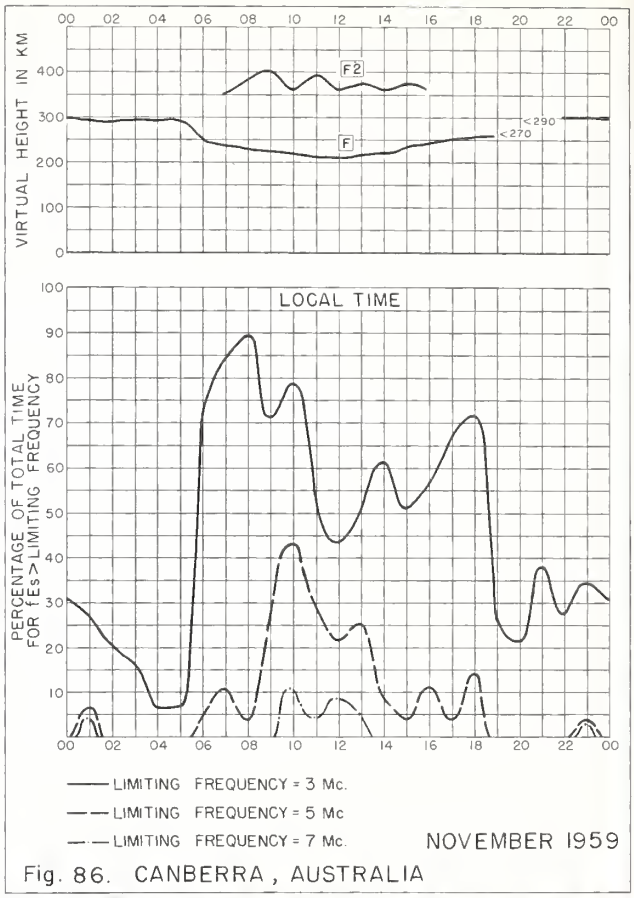


Fig. 86. CANBERRA, AUSTRALIA NOVEMBER 1959

NBS 490

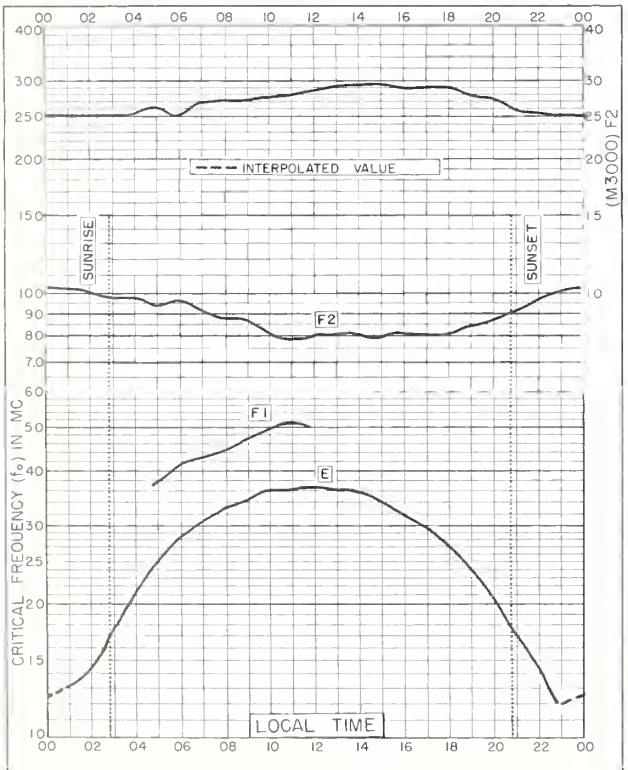


Fig. 87. PORT LOCKROY
64.8°S, 63.5°W NOVEMBER 1959

NBS 503

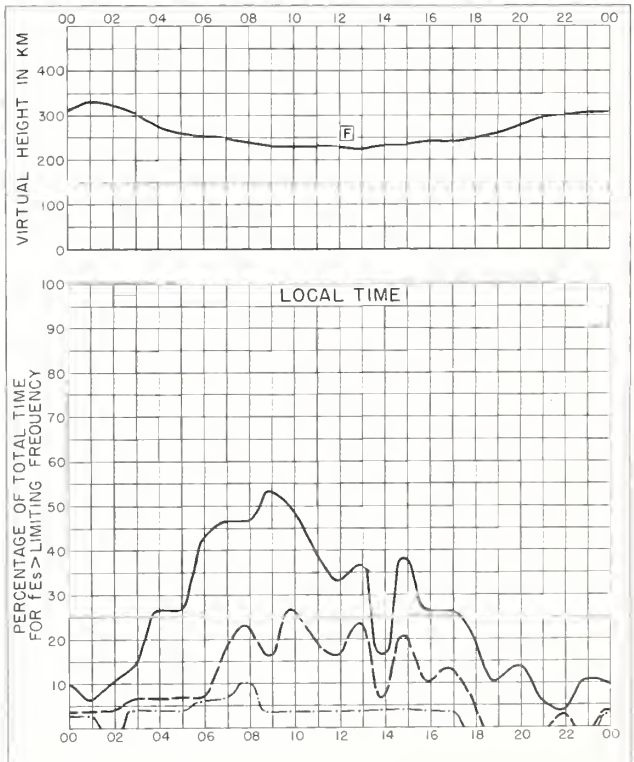


Fig. 88. PORT LOCKROY NOVEMBER 1959

NBS 490

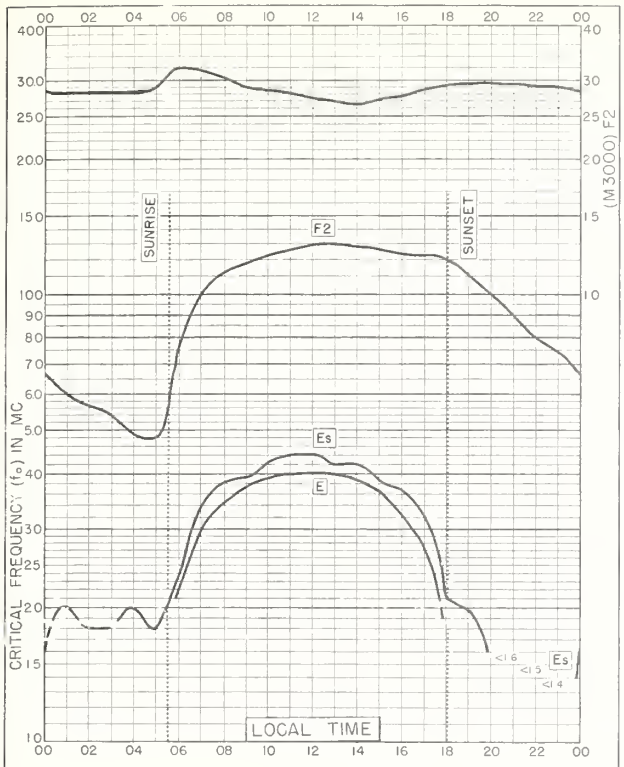
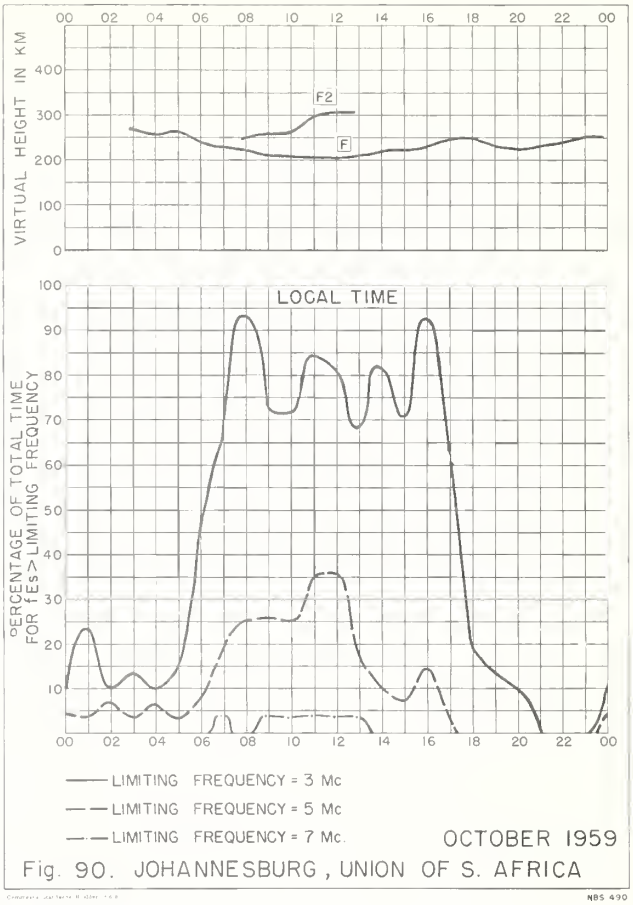


Fig. 89. JOHANNESBURG, UNION OF S. AFRICA
26.1°S, 28.1°E OCTOBER 1959

NBS 503



OCTOBER 1959

Fig. 90. JOHANNESBURG, UNION OF S. AFRICA

NBS 490

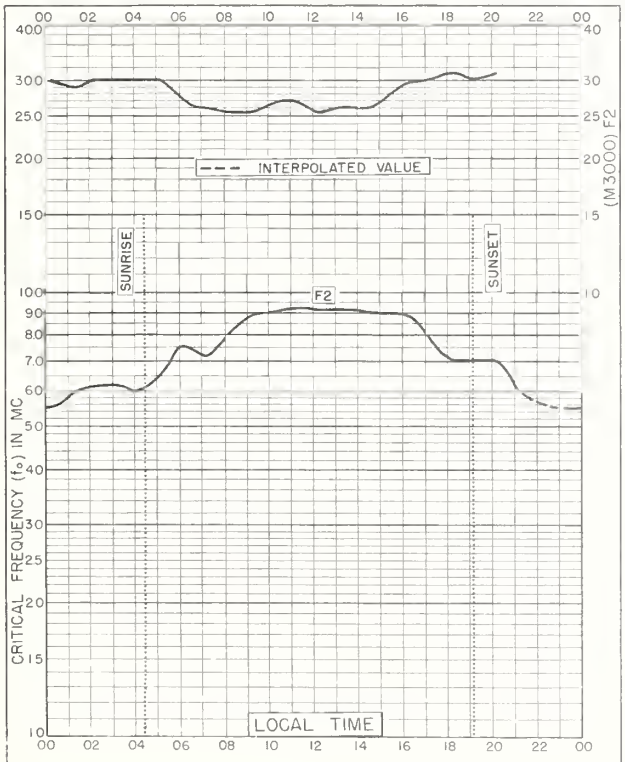


Fig. 91. MAWSON
67.6°S, 62.9°E OCTOBER 1959

NBS 503

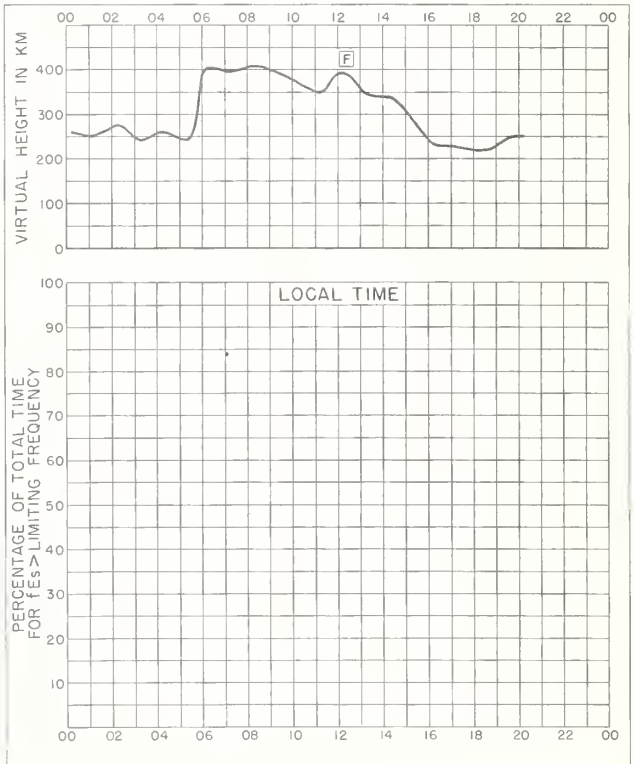


Fig. 92. MAWSON OCTOBER 1959

NBS 490

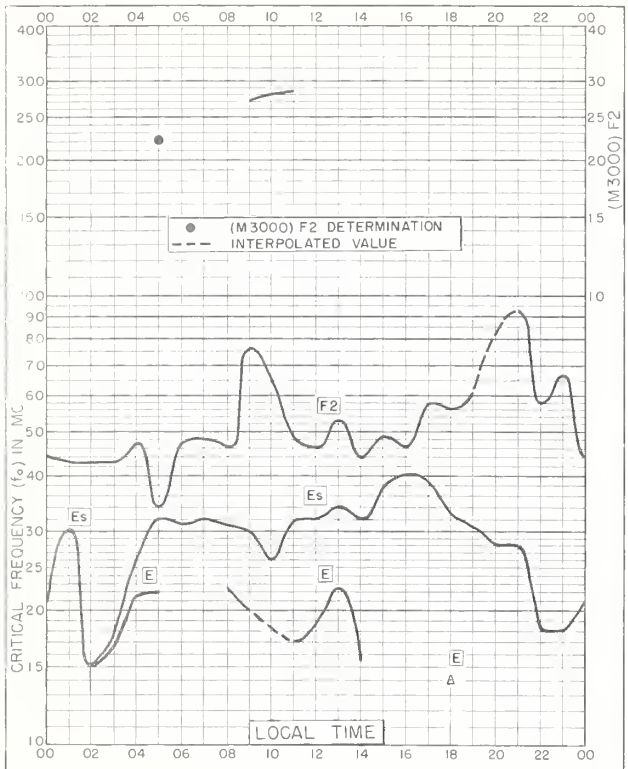


Fig. 93. SVALBARD, NORWAY
78.2°N, 15.7°E NOVEMBER 1958

NBS 503

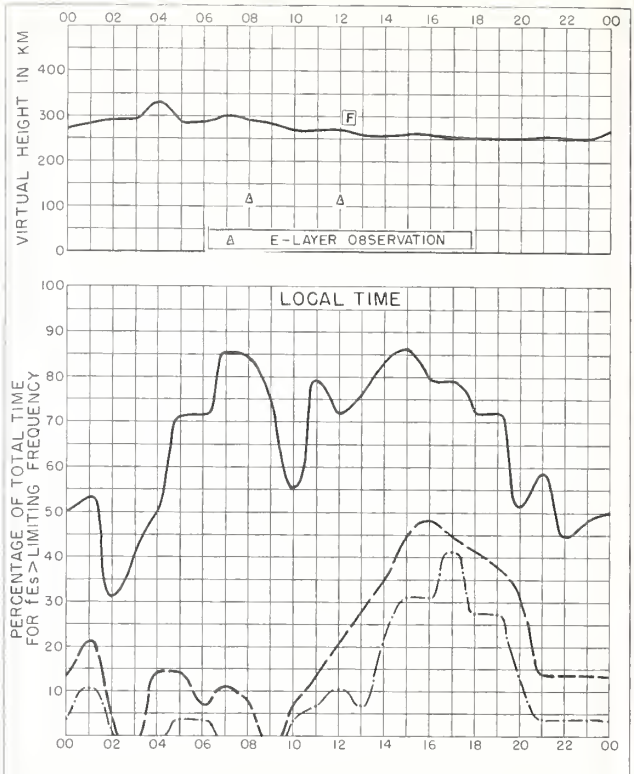


Fig. 94. SVALBARD, NORWAY NOVEMBER 1958

NBS 490

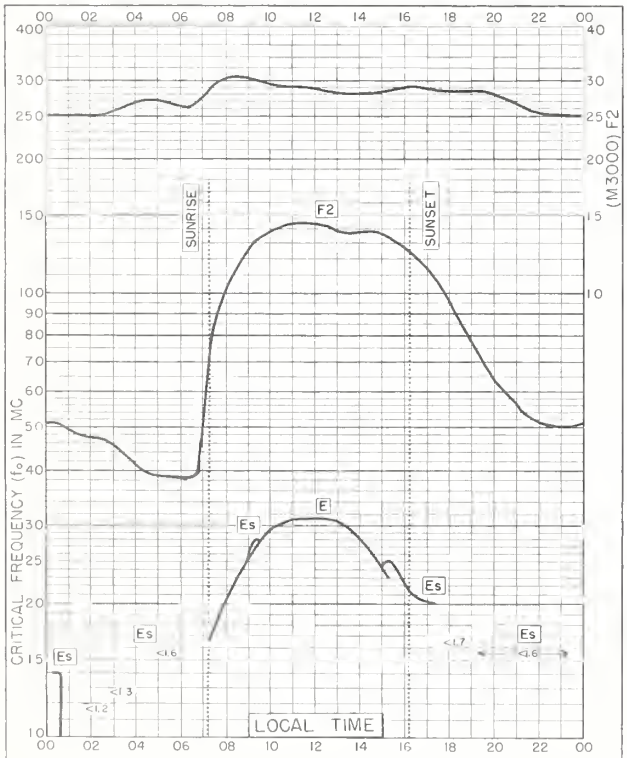


Fig. 95. DOURBES, BELGIUM
50.1°N, 4.6°E NOVEMBER 1958

NBS 503

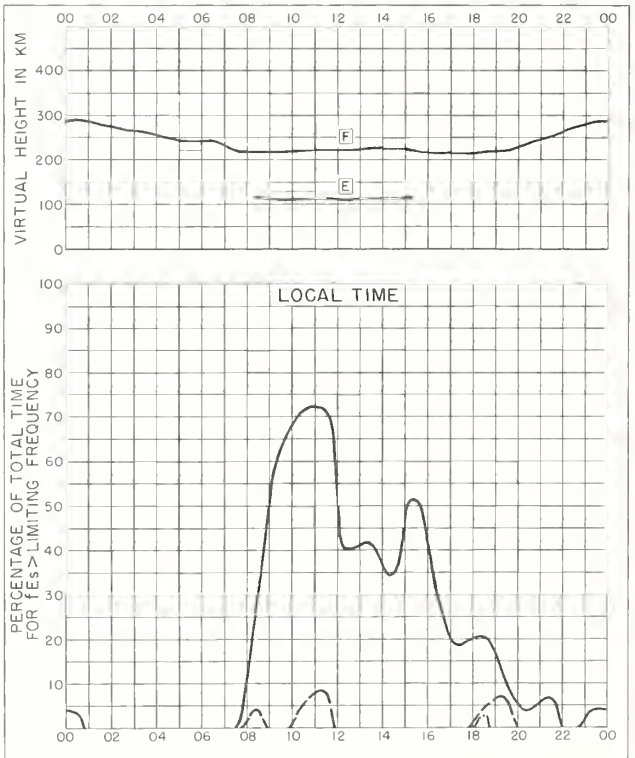


Fig. 96. DOURBES, BELGIUM NOVEMBER 1958

NBS 490

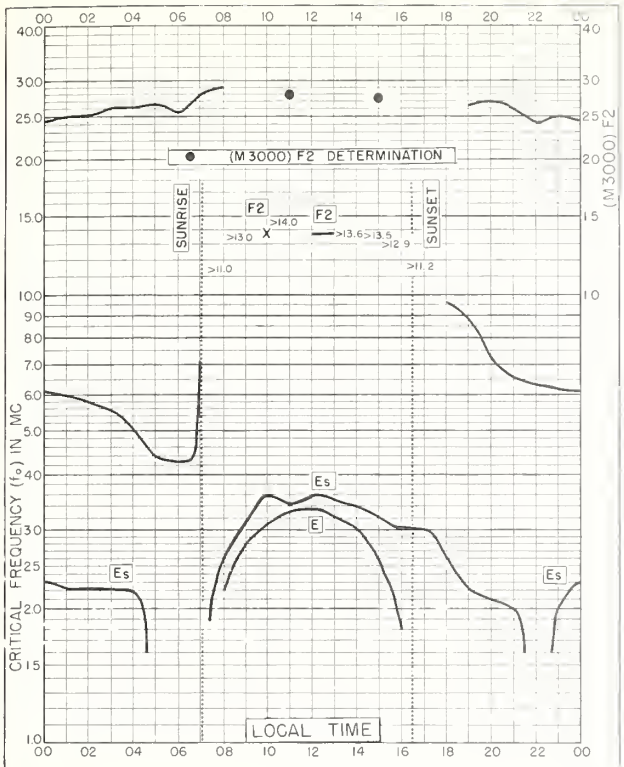


Fig. 97. POITIERS, FRANCE
46.6°N, 0.3°E NOVEMBER 1958

NBS 503

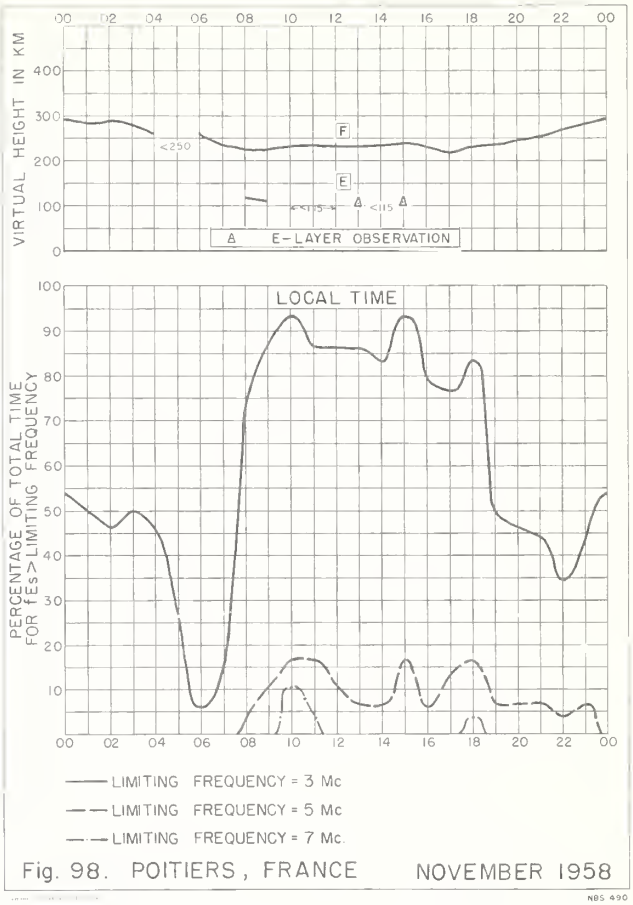


Fig. 98. POITIERS, FRANCE NOVEMBER 1958

NBS 490

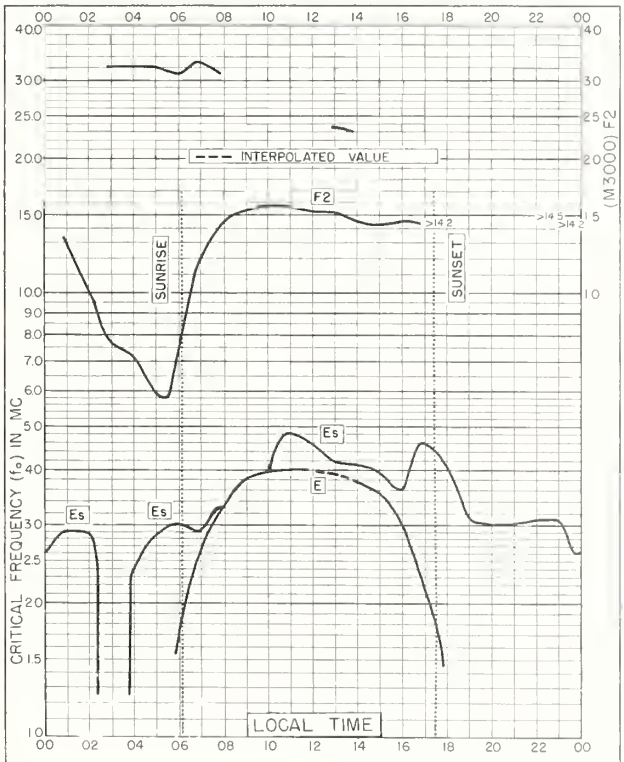


Fig. 99. DAKAR, FRENCH W. AFRICA
14.8°N, 17.4°W NOVEMBER 1958

NBS 503

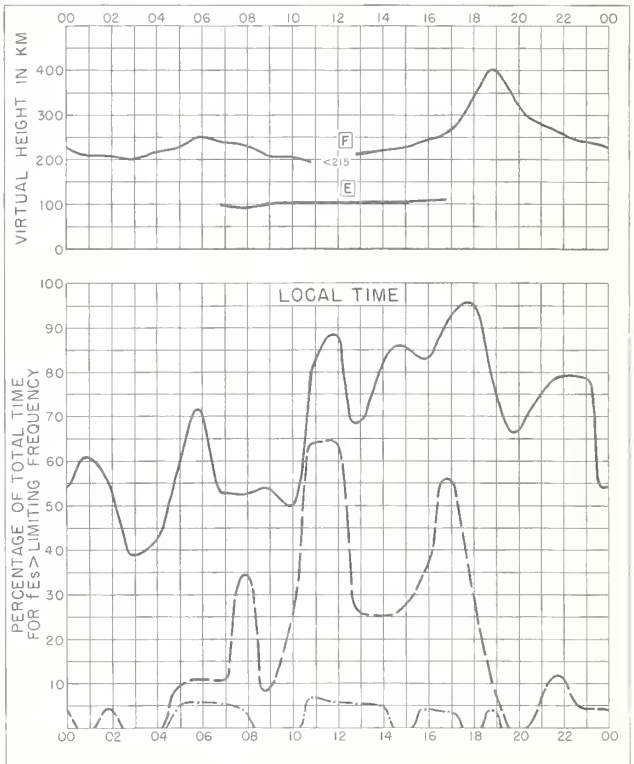


Fig. 100. DAKAR, FRENCH W. AFRICA NOVEMBER 1958

NBS 490

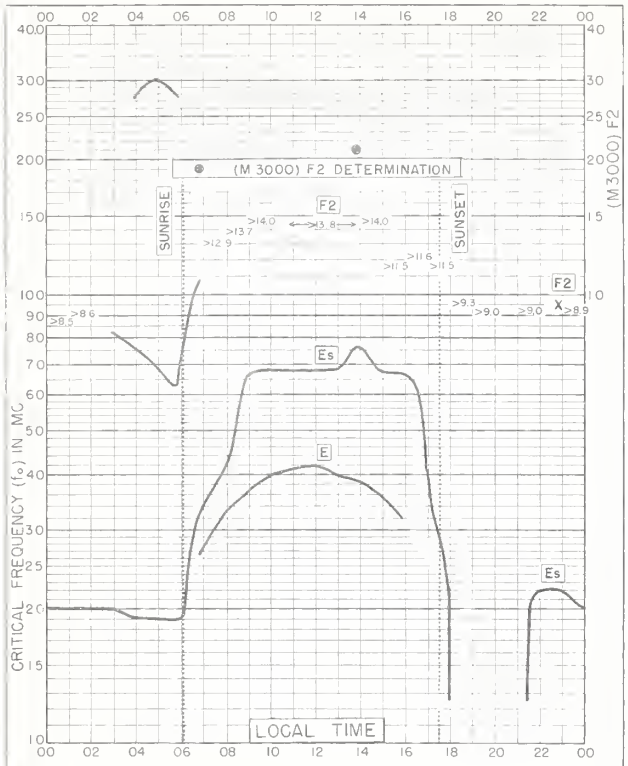
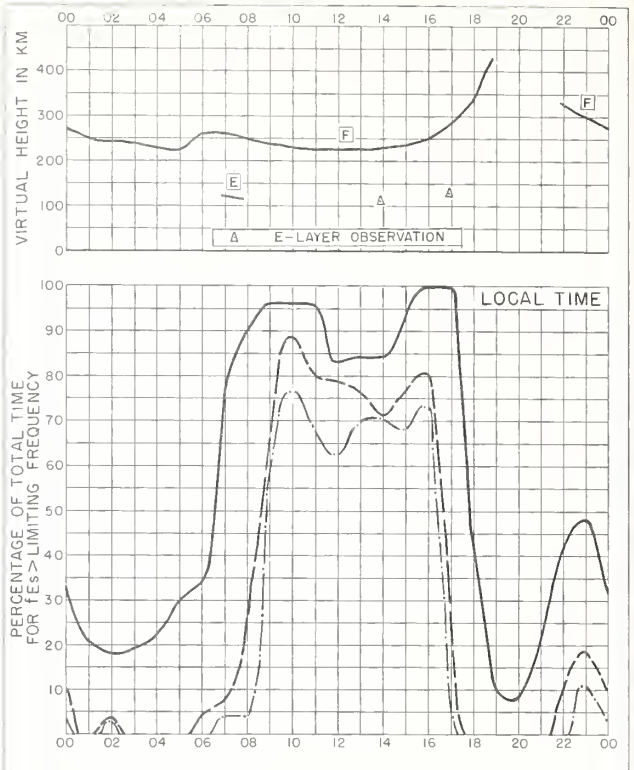


Fig. 101. DJIBOUTI, FRENCH SOMALILAND
11.6°N, 43.2°E NOVEMBER 1958



NOVEMBER 1958

Fig. 102. DJIBOUTI, FRENCH SOMALILAND

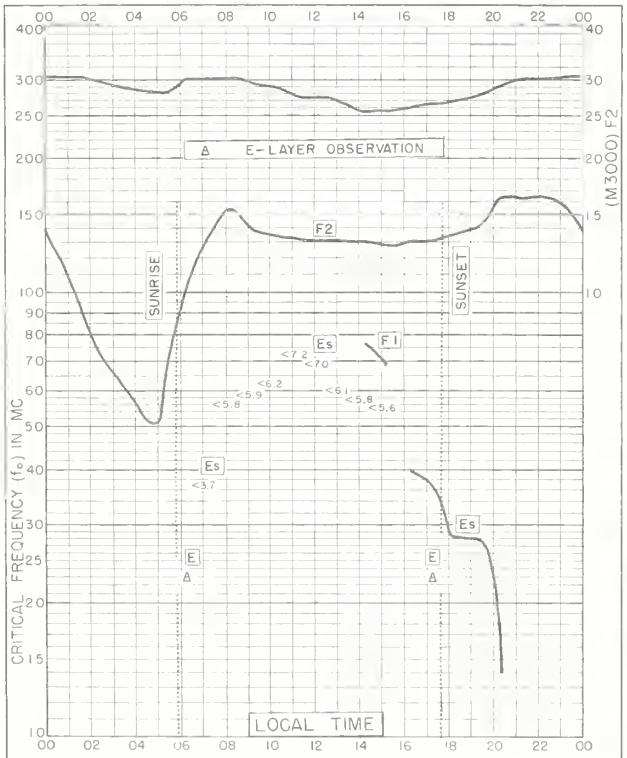


Fig. 103. PARAMARIBO, SURINAM
5.8°N, 55.2°W NOVEMBER 1958

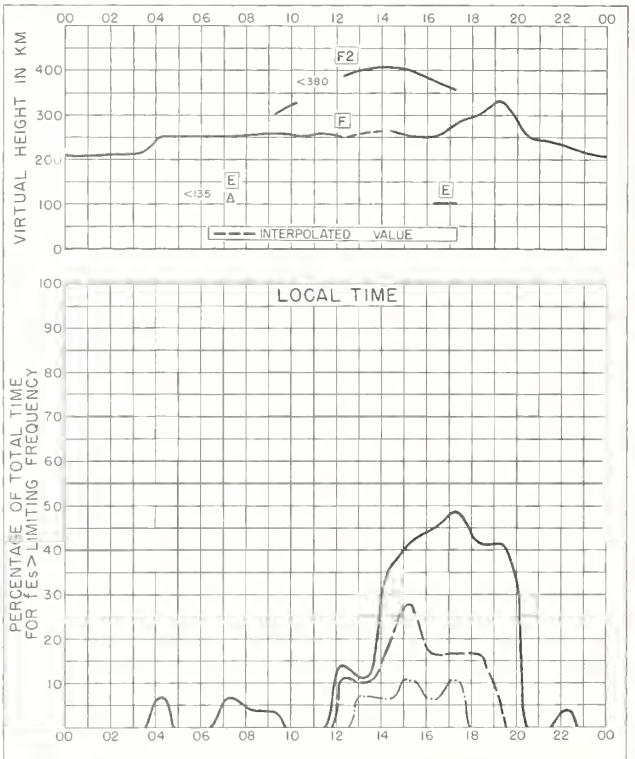


Fig. 104. PARAMARIBO, SURINAM NOVEMBER 1958

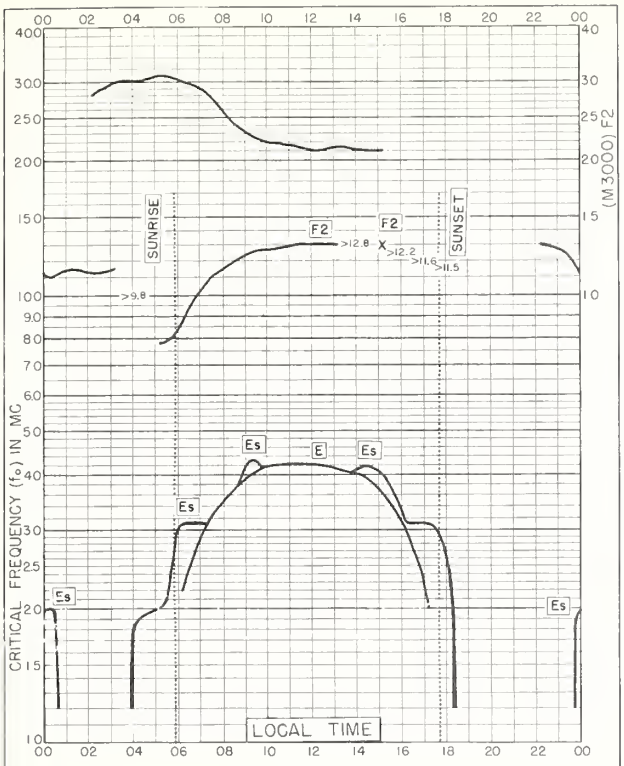
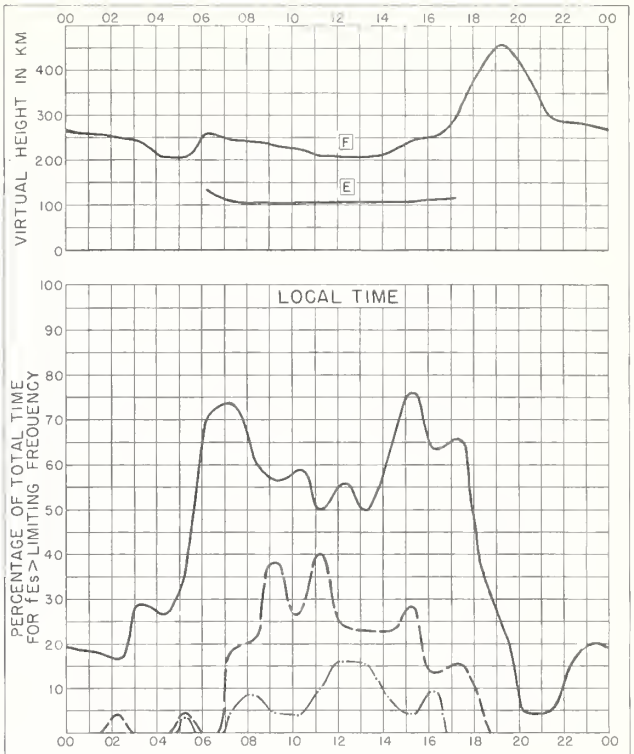


Fig. 105. BANGUI, FRENCH EQUATORIAL AFRICA
4.6°N, 18.6°E NOVEMBER 1958

NBS 503



NOVEMBER 1958

Fig. 106. BANGUI, FRENCH EQUATORIAL AFRICA

NBS 490

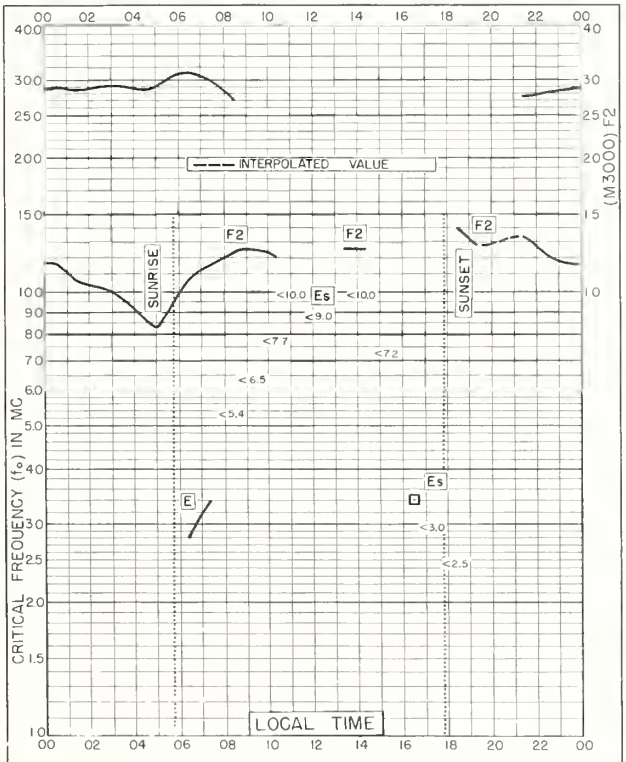
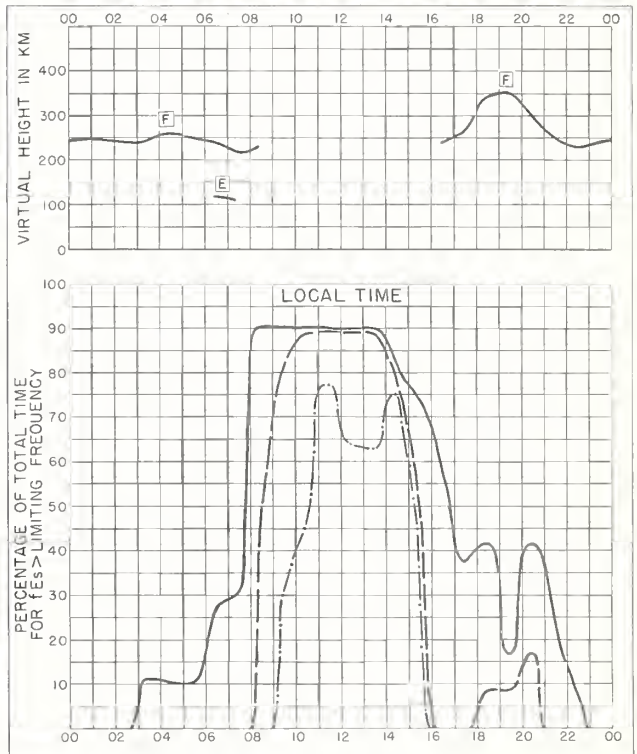


Fig. 107. HOLLANDIA, NETHERLANDS NEW GUINEA
2.5°S, 140.8°E NOVEMBER 1958

NBS 503



NOVEMBER 1958

Fig. 108. HOLLANDIA, NETHERLANDS NEW GUINEA

NBS 490

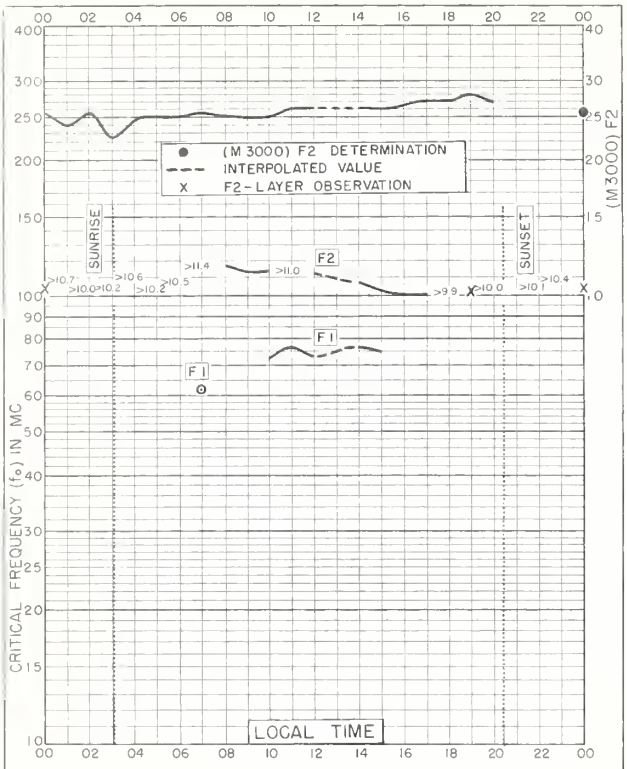


Fig. 109. DECEPCION I.
63.0°S, 60.7°W NOVEMBER 1958

NBS 503

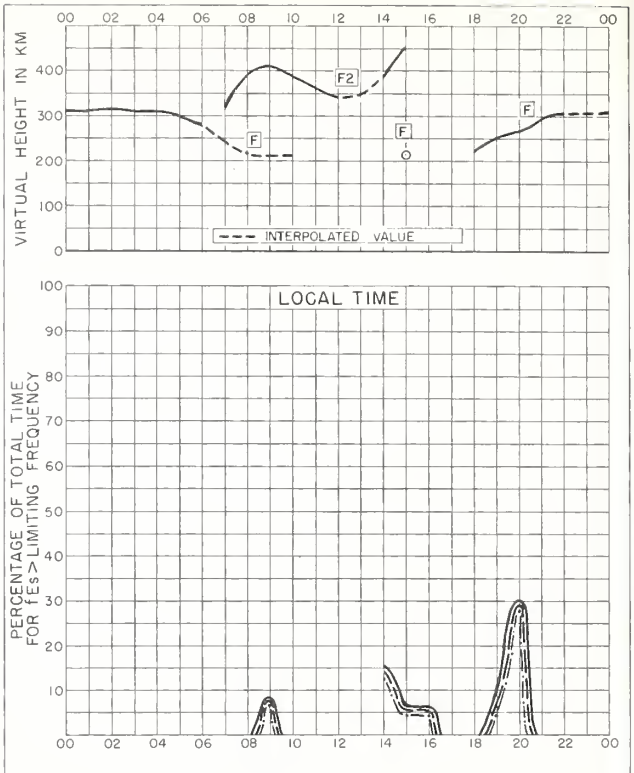


Fig. 110. DECEPCION I. NOVEMBER 1958

NBS 490

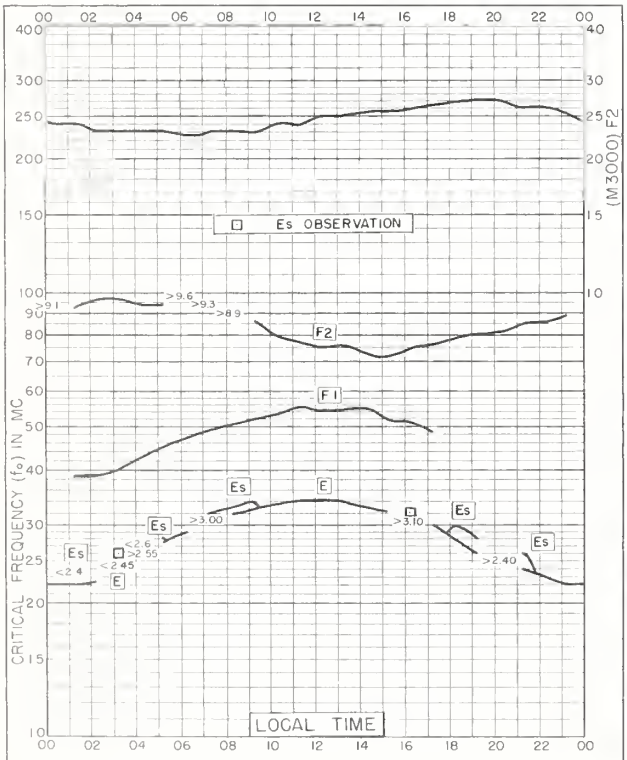


Fig. 111. HALLEY BAY
75.5°S, 26.6°W NOVEMBER 1958

NBS 503

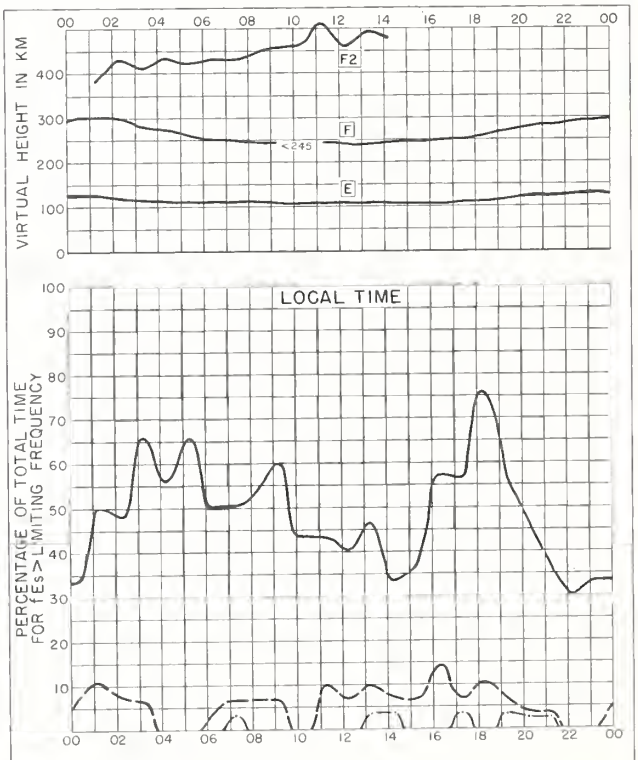


Fig. 112. HALLEY BAY NOVEMBER 1958

NBS 490

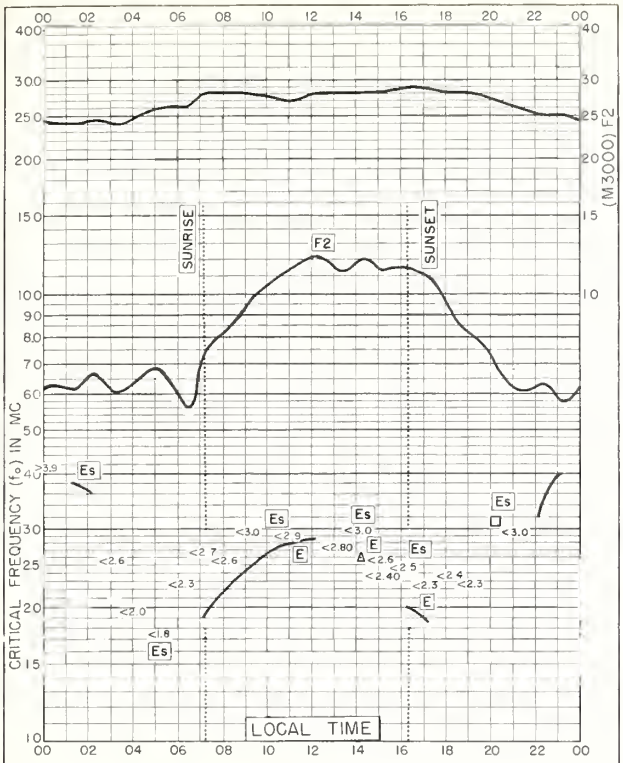


Fig. 113. MURMANSK, U.S.S.R.
69.0°N, 33.0°E OCTOBER 1958

NBS 503

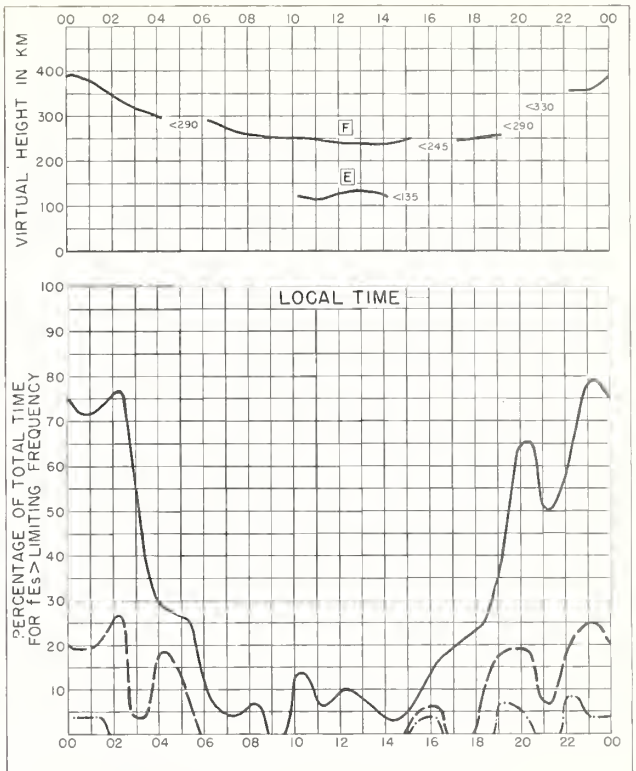


Fig. 114. MURMANSK, U.S.S.R. OCTOBER 1958

NBS 490

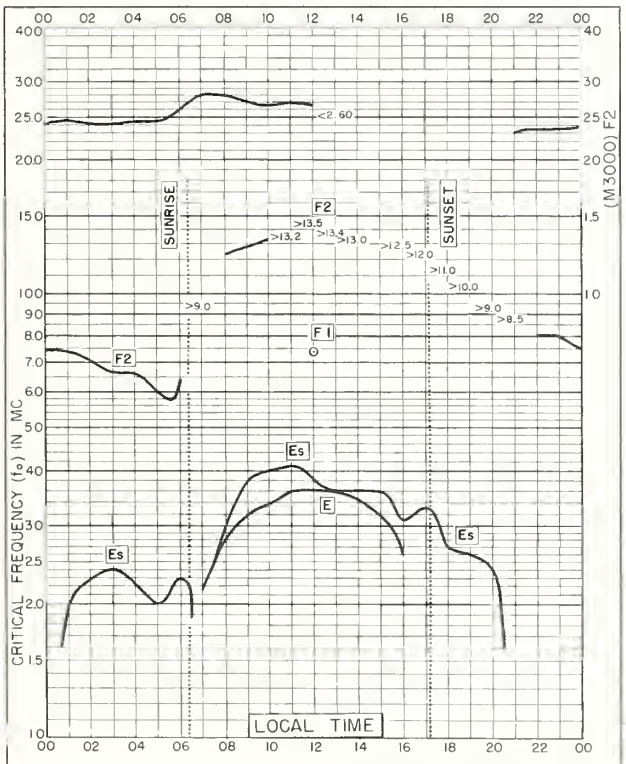


Fig. 115. POITIERS, FRANCE
46.6°N, 0.3°E OCTOBER 1958

NBS 503

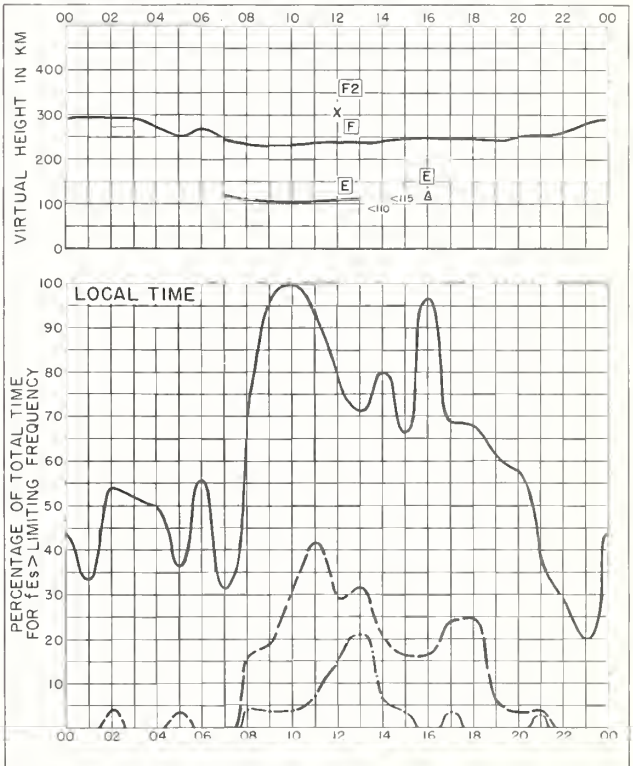


Fig. 116. POITIERS, FRANCE OCTOBER 1958

NBS 490

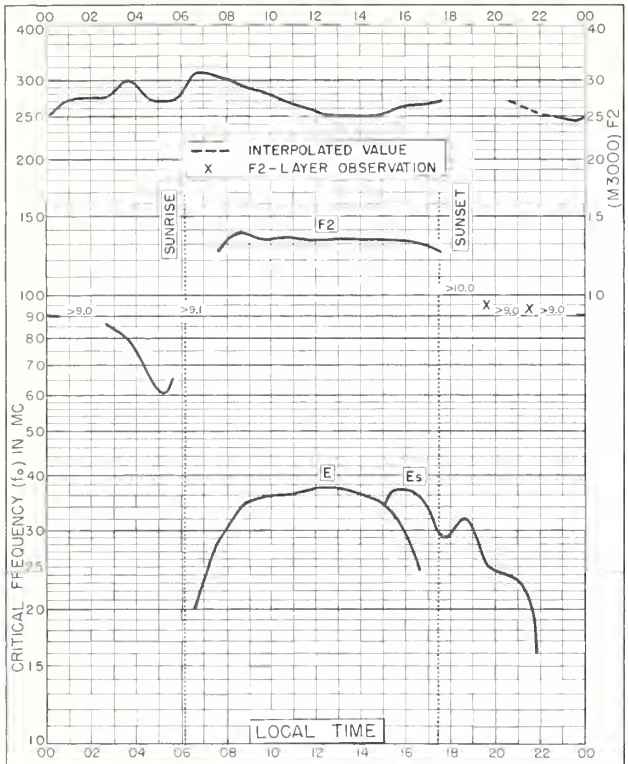


Fig. 117. RABAT, MOROCCO
30.9°N, 6.8°W OCTOBER 1958

NBS 503

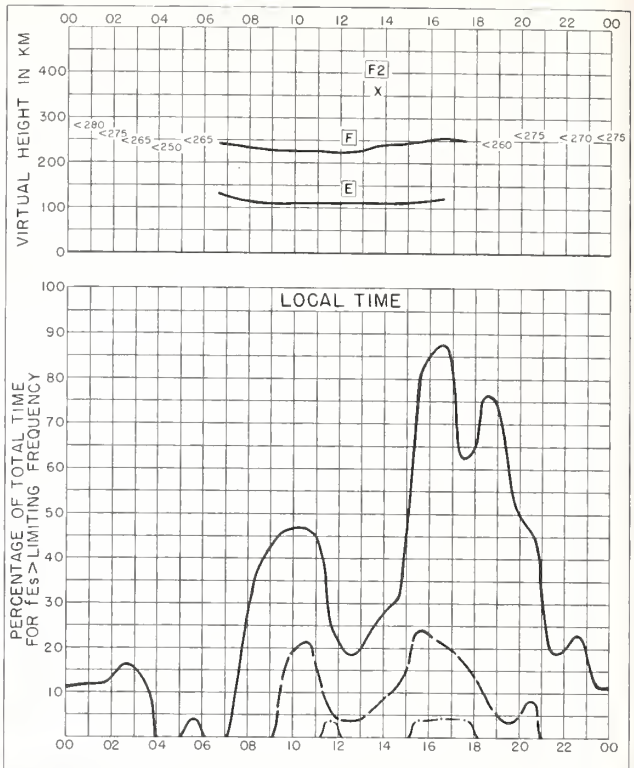


Fig. 118. RABAT, MOROCCO OCTOBER 1958

NBS 490

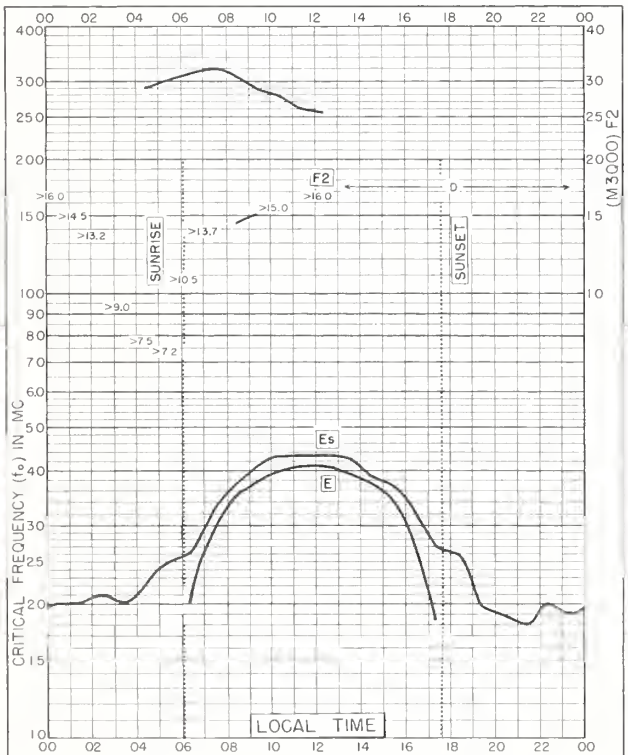


Fig. 119. TAMANRASSET, FRENCH W. AFRICA
22.8°N, 5.5°E OCTOBER 1958

NBS 503

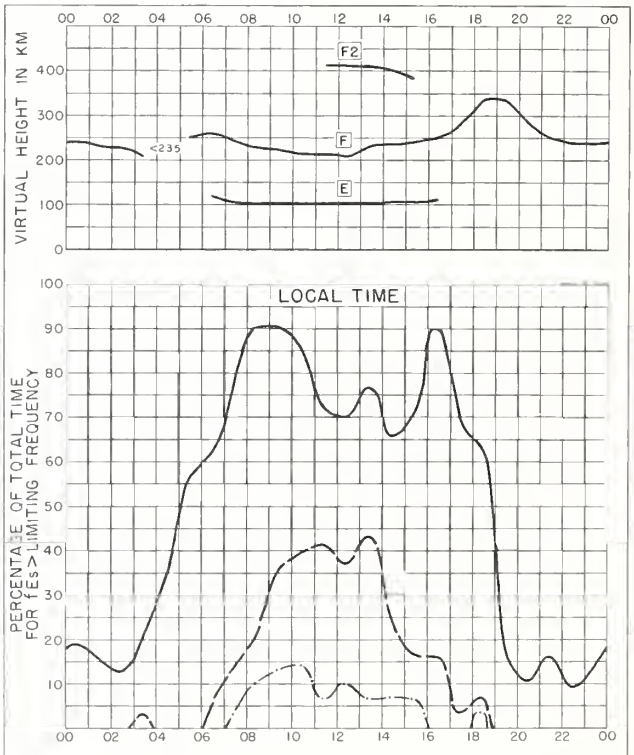


Fig. 120. TAMANRASSET, FRENCH W. AFRICA OCTOBER 1958

NBS 490

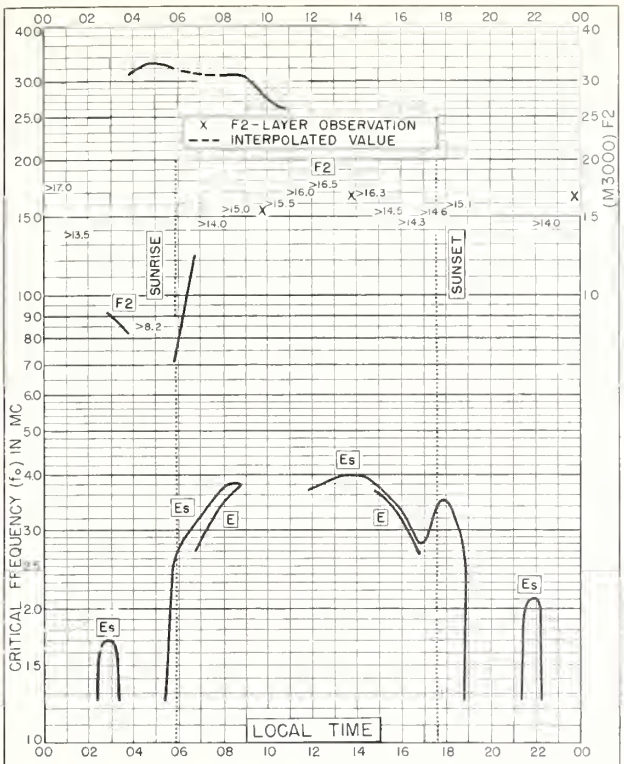
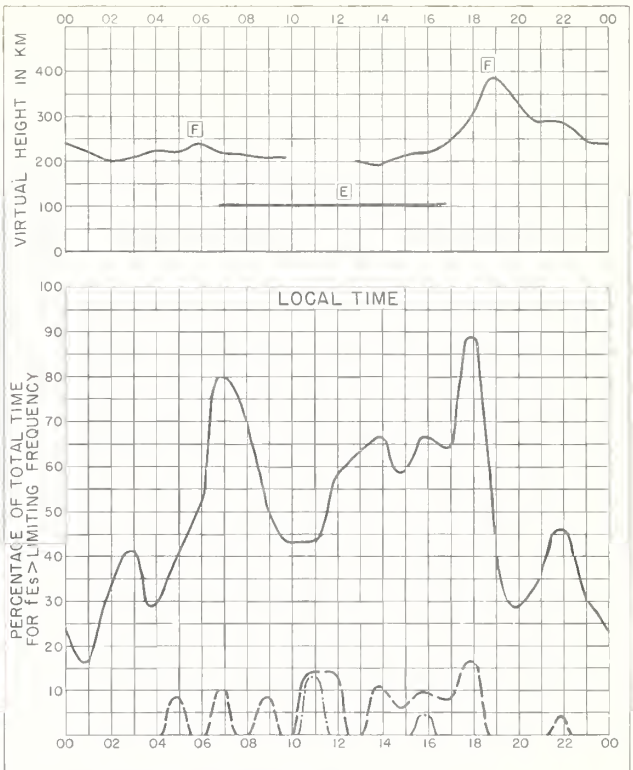


Fig. 121. DAKAR, FRENCH W. AFRICA
14.8°N, 17.4°W OCTOBER 1958



OCTOBER 1958

Fig. 122. DAKAR, FRENCH W. AFRICA

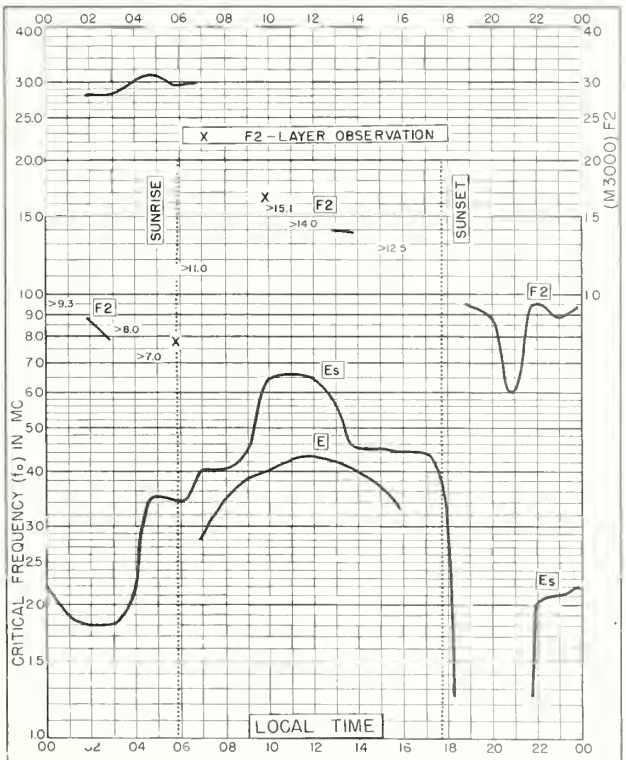
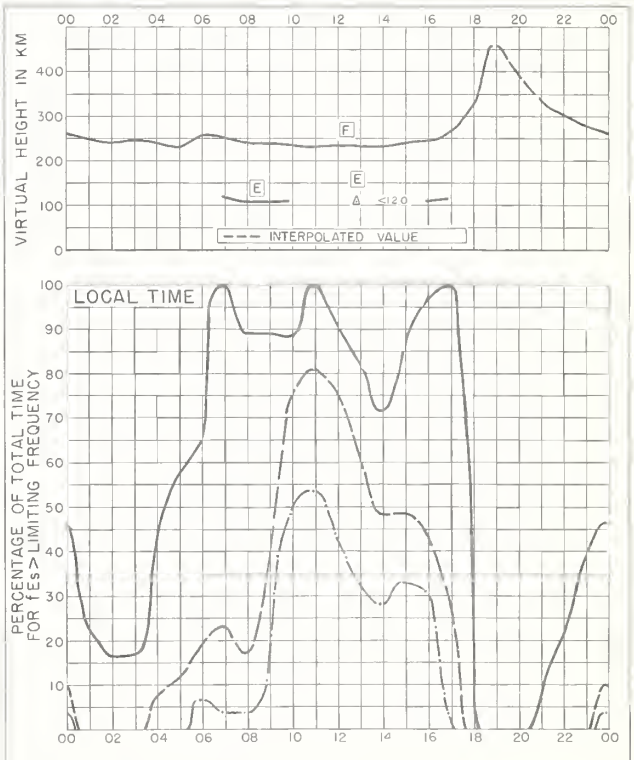


Fig. 123. DJIBOUTI, FRENCH SOMALILAND
11.6°N, 43.2°E OCTOBER 1958



OCTOBER 1958

Fig. 124. DJIBOUTI, FRENCH SOMALILAND

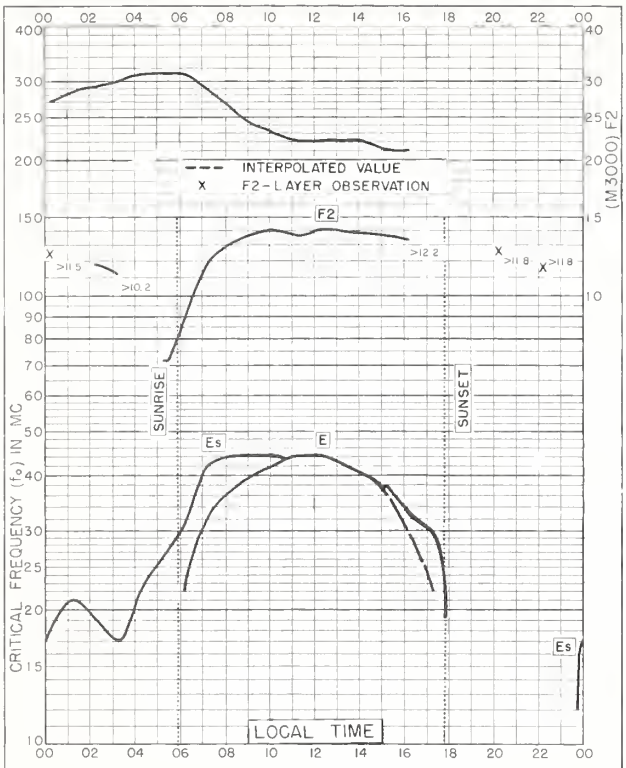
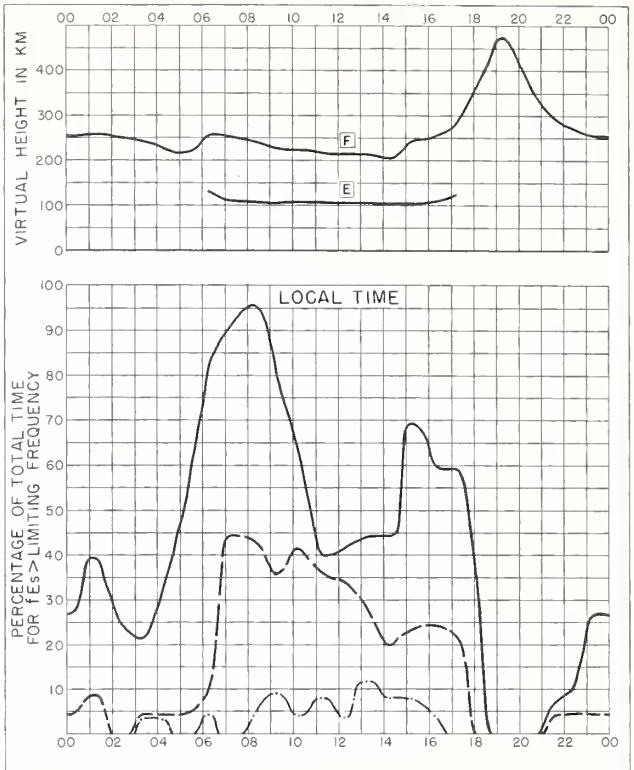


Fig. 125. BANGUI, FRENCH EQUATORIAL AFRICA
4.6°N, 18.6°E OCTOBER 1958



OCTOBER 1958
Fig. 126. BANGUI, FRENCH EQUATORIAL AFRICA

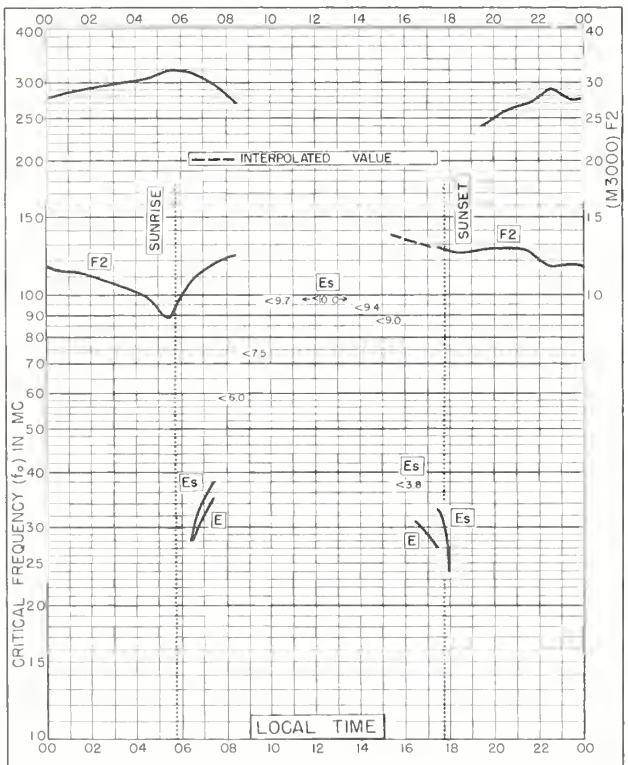
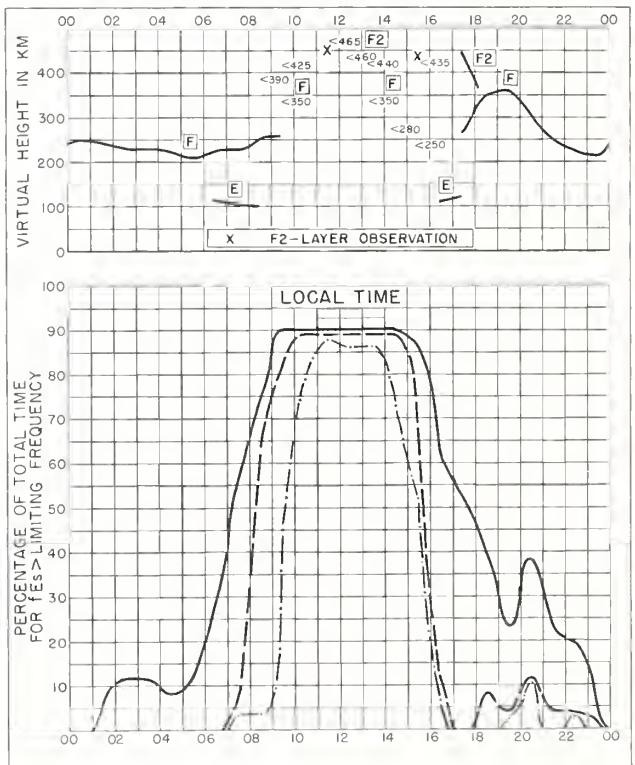


Fig. 127. HOLLANDIA, NETHERLANDS NEW GUINEA
2.5°S, 140.8°E OCTOBER 1958



OCTOBER 1958
Fig. 128. HOLLANDIA, NETHERLANDS NEW GUINEA

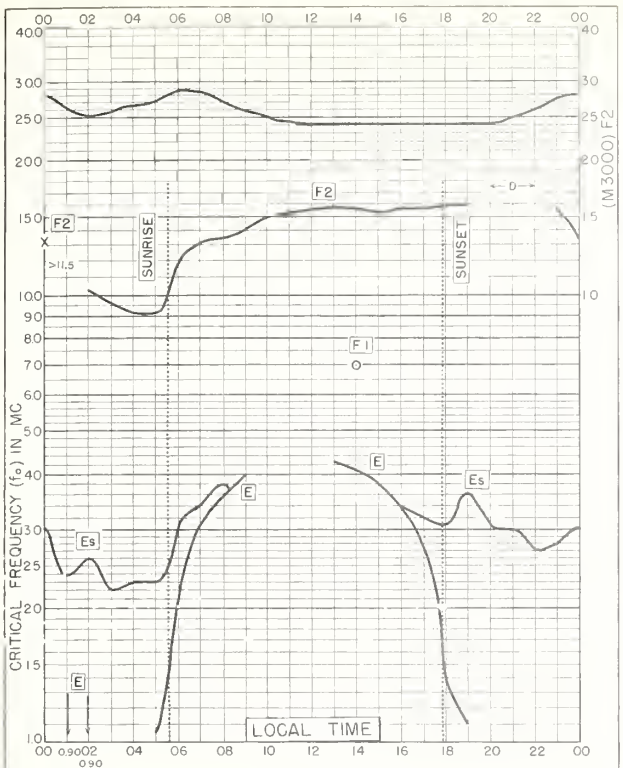


Fig. 129. TAHITI, SOCIETY IS.
17.7°S, 149.3° W OCTOBER 1958

NBS 503

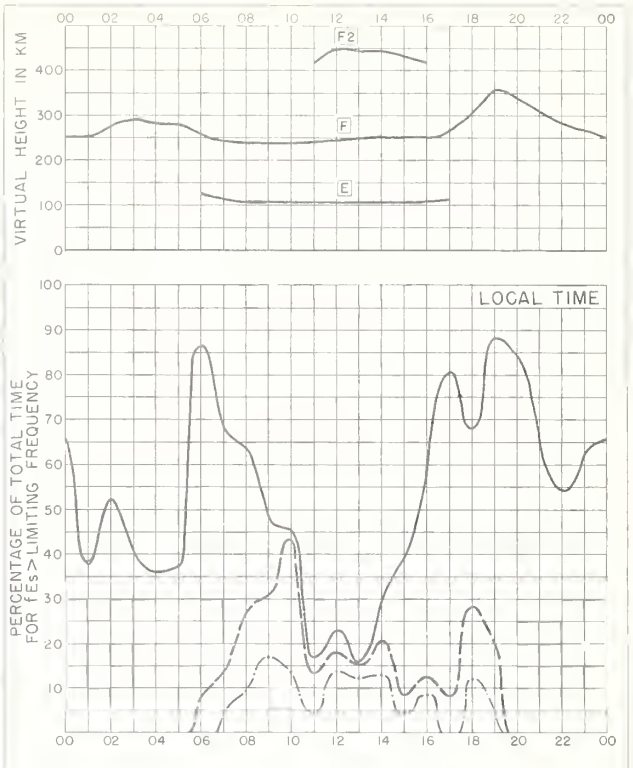


Fig. 130. TAHITI, SOCIETY IS. OCTOBER 1958

NBS 490

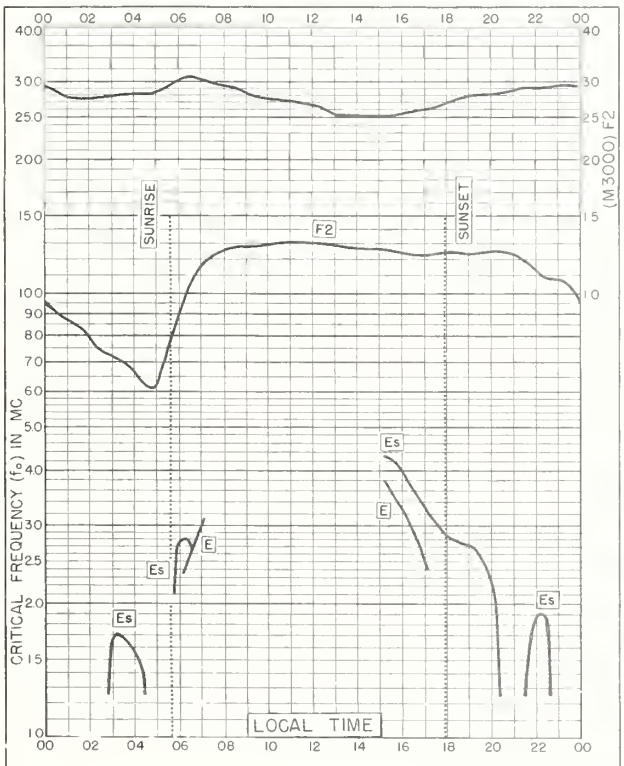


Fig. 131. TANANARIVE, MADAGASCAR
18.8°S, 47.5°E OCTOBER 1958

NBS 503

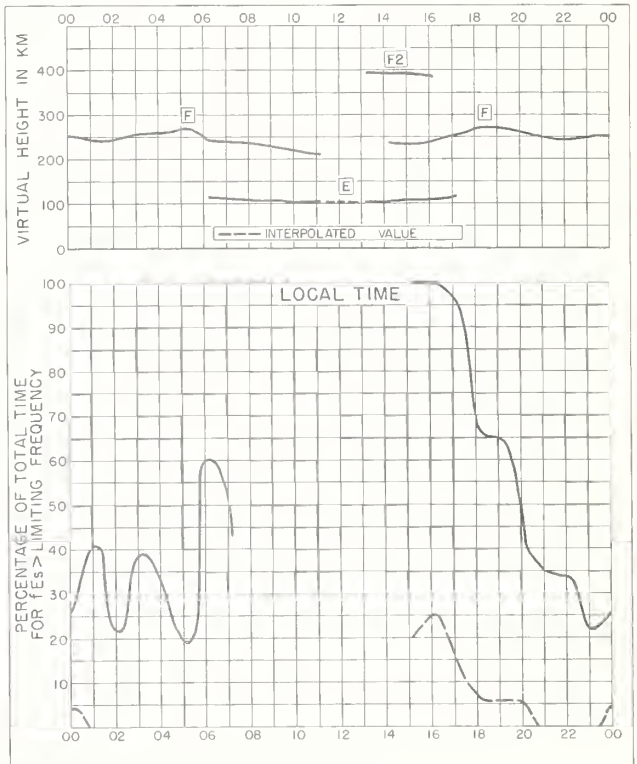


Fig. 132. TANANARIVE, MADAGASCAR OCTOBER 1958

NBS 490

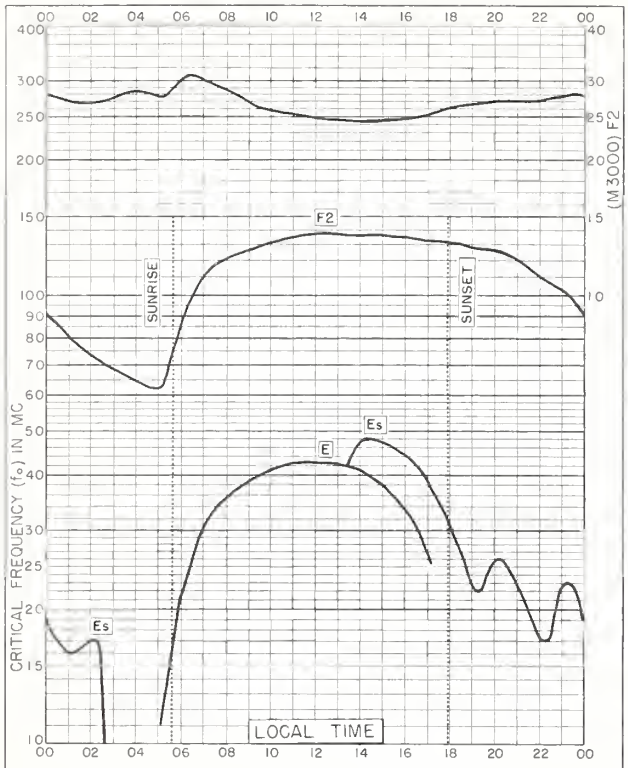


Fig. 133. TSUMEB, SOUTH W. AFRICA
19.2°S, 17.7°E OCTOBER 1958

NBS 503

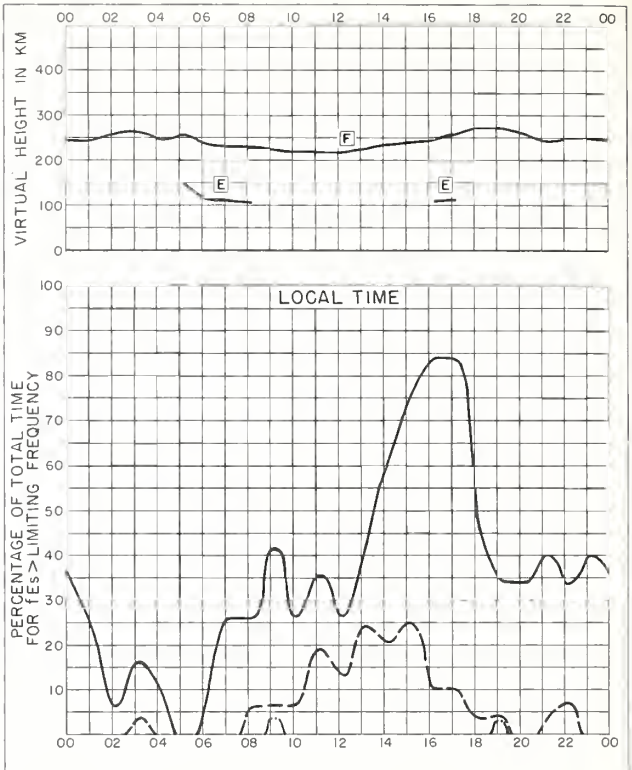


Fig. 134. TSUMEB, SOUTH W. AFRICA OCTOBER 1958

NBS 490

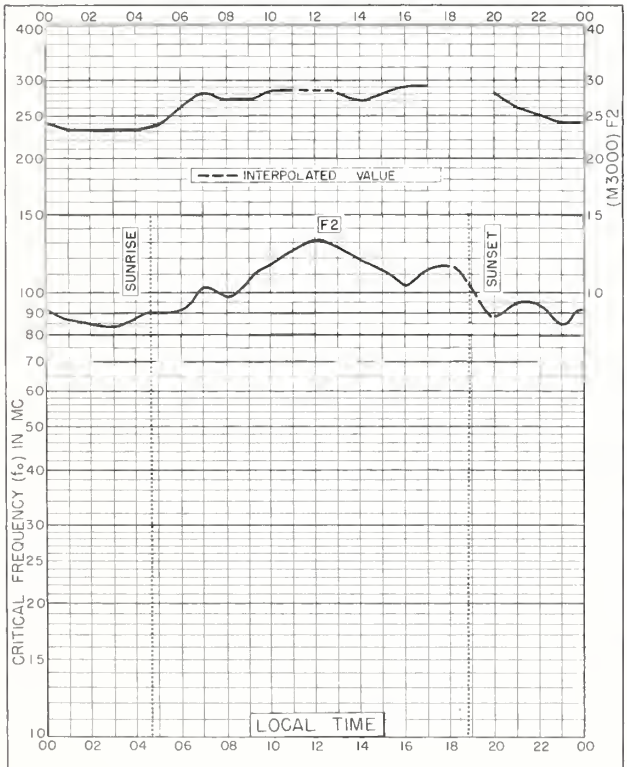


Fig. 135. DECEPCION I.
63.0°S, 60.7°W OCTOBER 1958

NBS 503

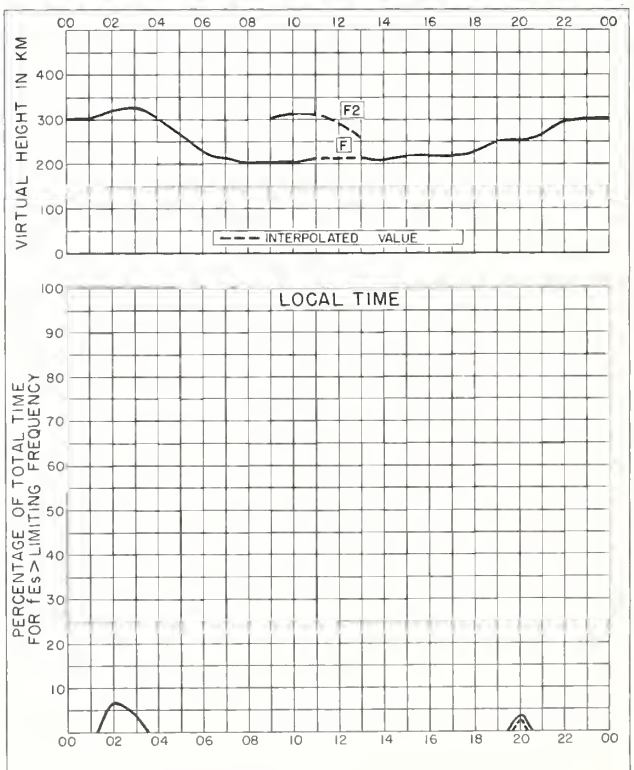


Fig. 136. DECEPCION I. OCTOBER 1958

NBS 490

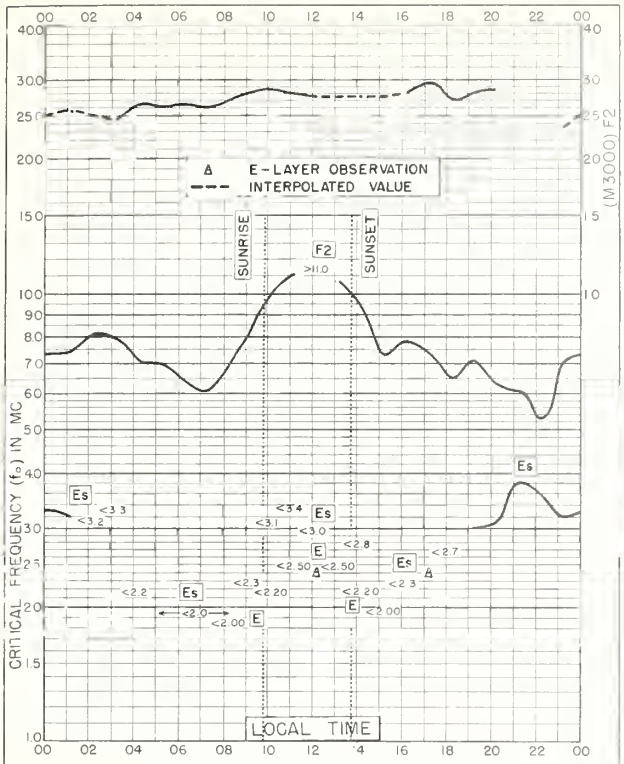


Fig. 137. MURMANSK, U.S.S.R.
69.0°N, 33.0°E NOVEMBER 1957

NBS 503

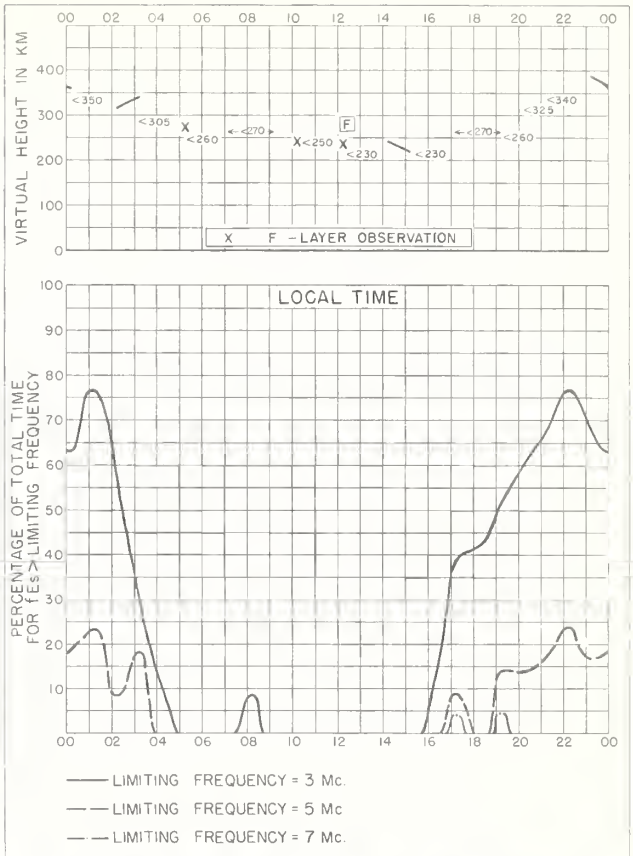


Fig. 138. MURMANSK, U.S.S.R. NOVEMBER 1957

NBS 490

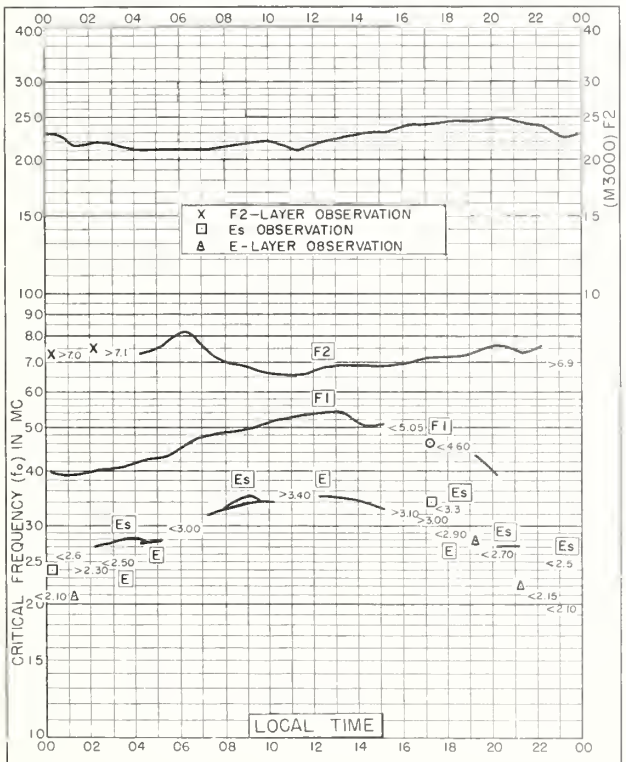


Fig. 139. HALLEY BAY
75.5°S, 26.6°W NOVEMBER 1957

NBS 503

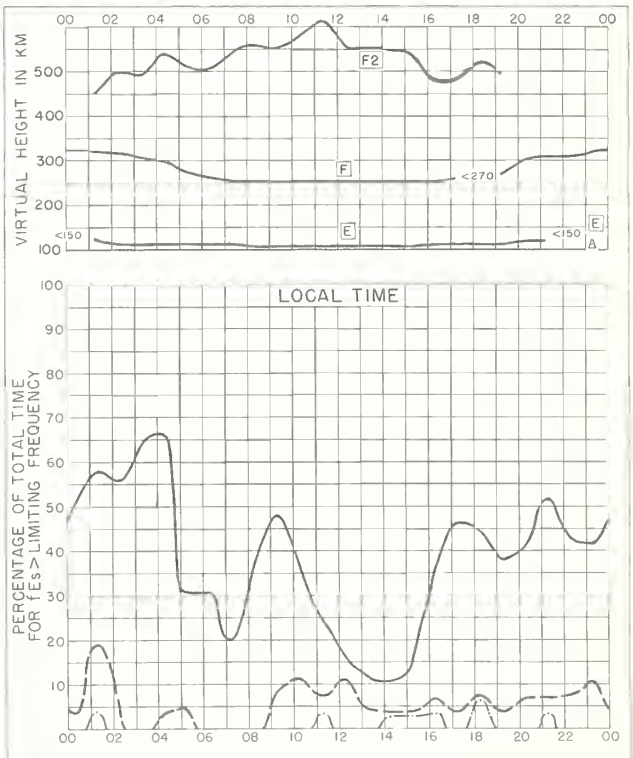


Fig. 140. HALLEY BAY NOVEMBER 1957

NBS 490

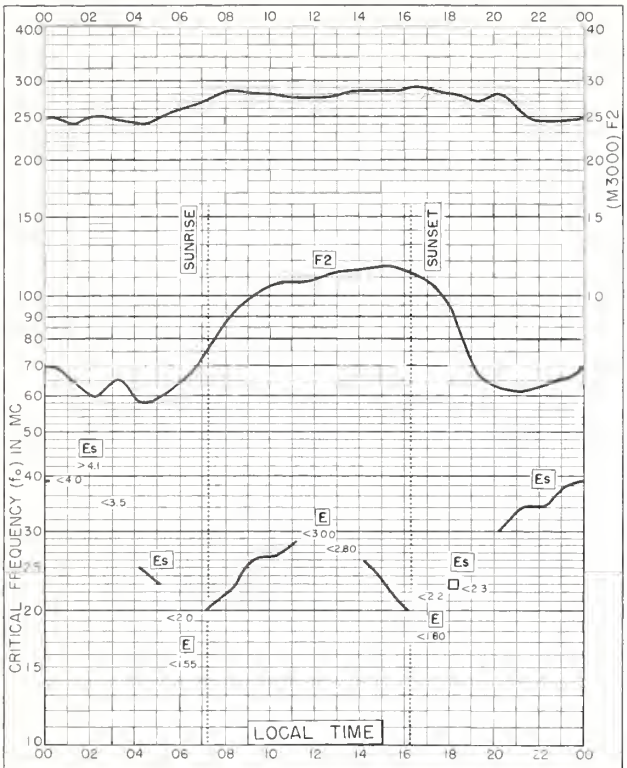


Fig. 141. MURMANSK, U.S.S.R.
69.0°N, 33.0°E OCTOBER 1957

NBS 503

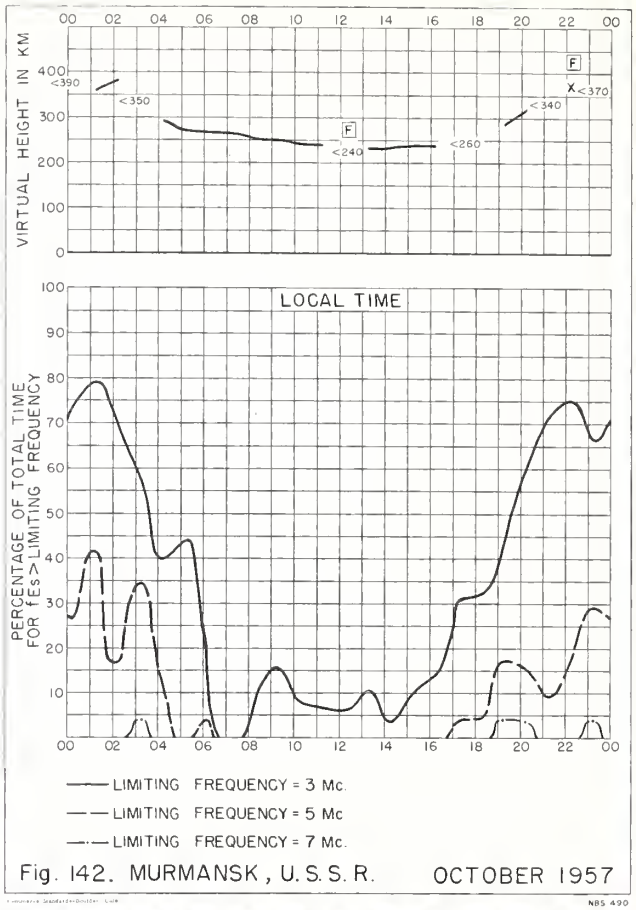


Fig. 142. MURMANSK, U.S.S.R. OCTOBER 1957

NBS 490

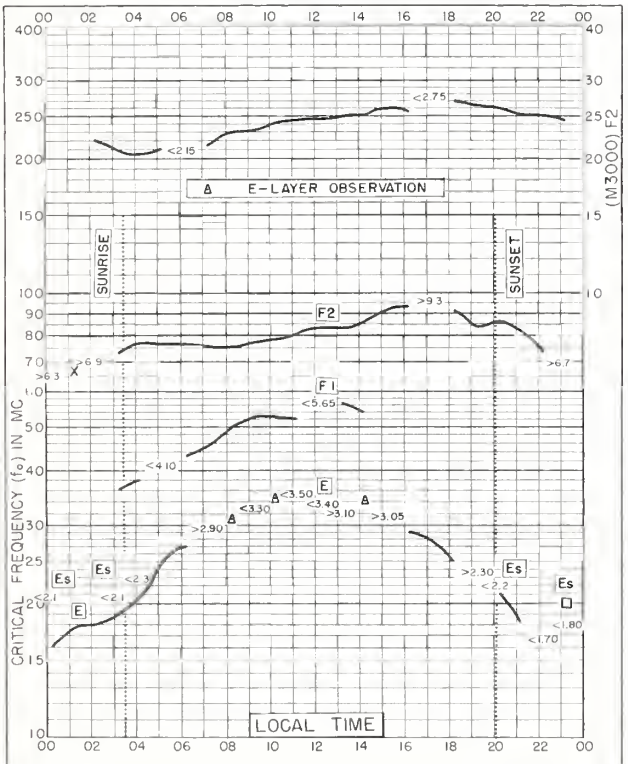


Fig. 143. HALLEY BAY
75.5°S, 26.6°W OCTOBER 1957

NBS 503

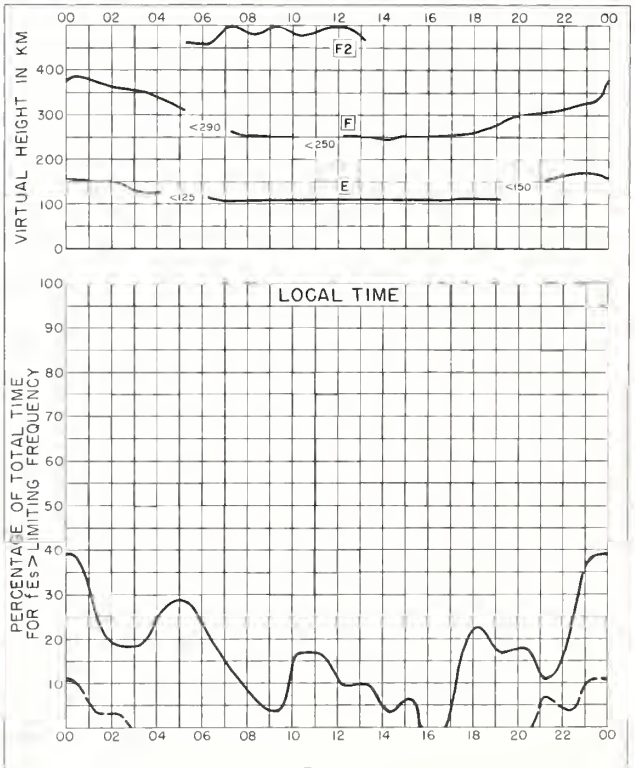


Fig. 144. HALLEY BAY OCTOBER 1957

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Index of Tables and Graphs of Ionospheric Data in CRPL-F202 (Part A)

Index (CRPL-F202 (Part A), continued)

Index CRPL-F202 (Part A), concluded)

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CRPL—F. (Part A). Ionospheric Data.
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Limited distribution. These publications are in general disseminated only to those individuals or scientific organizations which collaborate in the exchange of ionospheric, solar, geomagnetic, or other radio propagation data.

Catalog of Data:

A catalog of records and data on file at the U. S. IGY World Data Center A for Airglow and Ionosphere, Boulder Laboratories, National Bureau of Standards, which includes a fee schedule to cover the cost of supplying copies, is available upon request.

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